

## **Chapter 7: Human Environment - Settlement, Transport & Communication**

The place where a building or a settlement develops is called its **site**.

The natural conditions for selecting an ideal site are : 1.favourable climate 2.availability of water 3.suitable land 4.fertile soil.

Settlements are places where people build their homes.(permanent/temporary)

The settlements grew near the river valleys as water was available and land was fertile.

Settlements which are occupied for a short period of time are called **temporary settlements**.

The people living in deep forests, hot and cold deserts and mountains often dwell here and practice hunting, gathering, shifting cultivation and transhumance.

**Transhumance:** It is a seasonal movement of people. People who rear animals move in search of new pastures according to change in seasons.

The villages are rural settlement where people are engaged in activities like agriculture, fishing, forestry, crafts work and trading etc.

Rural settlements can be compact or scattered.

A compact settlement is a closely built area of dwellings, wherever flat land is available. In a scattered settlement dwellings are spaced over an extensive area., mostly found in hilly tracts, thick forests, and regions of extreme climate.

In urban areas the people are engaged in manufacturing, trading, and services.

Transport is the means by which people and goods move.

People had to walk and used animals to carry their goods.

In our country donkeys, mules, bullocks and camels are common. In the Andes Mountains of South America, llamas are used, as are yaks in Tibet.

### **Roadways**

Roads can be metalled (pucca) and unmetalled (kutcha).

Manali-Leh highway in the Himalayan Mountains is one of the highest roadways in the world.

Roads built underground are called subways/under paths. Flyovers are built over raised structures.

The latest development in India is the construction of **Express Ways**. The Golden Quadrilateral connects Delhi, Mumbai, Chennai and Kolkata.

### **Railways**

The railways carry heavy goods and people over long distances quickly and cheaply.

Diesel and electric engines have largely replaced the steam engines.

The train from Xining to Lhasa runs at an altitude of 4km above sea level and the highest point is 5,072 m. Indian railway network is well developed and the largest in Asia.

The Trans-Siberian Railway is the longest railway system connecting St. Petersburg in Western Russia to Vladivostok on the Pacific coast.

### **Waterways**

Waterways are the cheapest for carrying heavy and bulky goods over long distances.

Mainly of two types – **inland waterways** and **sea routes**.

Navigable rivers and lakes are used as inland waterways.

Important inland waterways are the Ganga-Brahmaputra river system, the Great Lakes in North America and the river Nile in Africa.

Sea routes and oceanic routes are mostly used for transporting merchandise and goods from one country to another which are connected with the ports.

Imp ports - Singapore and Mumbai in Asia, New York, Los Angeles in North America, Rio de Janeiro in South America, Durban and Cape Town in Africa, Sydney in Australia, London and Rotterdam in Europe.

## Airways

Air traffic is adversely affected by bad weather like fog and storms.

Helicopters are extremely useful in most inaccessible areas and in time of calamities for rescuing people and distributing food, water, clothes and medicines.

Important airports are Delhi, Mumbai, New York, London, Paris, Frankfurt and Cairo.

## Communication

Communication is the process of conveying messages to others.

Through newspapers, radio and tv we can communicate with a large number of people(**Mass Media**)

The satellites have made communication even faster. Satellites have helped in oil exploration, survey of forest, underground water, mineral wealth, weather forecast and disaster warning.

## **Chapter 8 Human Environment Interactions: The Tropical and The Subtropical Region**

### **Life in the Amazon Basin**

The tropical region lies very close to the equator; b/w 10°N and 10°S. So, referred to as the equatorial region.

The river Amazon flows through this region and flows from the mountains to the west and reaches the Atlantic Ocean to the east.

The place where a river flows into another body of water is called the river's mouth.

Numerous tributaries join the Amazon River to form the Amazon basin. The river basin drains portions of Brazil, parts of Peru, Bolivia, Ecuador, Columbia and a small part of Venezuela.

When Spanish explorers discovered Amazon river, they were attacked by a group of local tribes wearing headgears and grass skirts. These people reminded them of the fierce tribes of women warriors known in ancient Roman Empire as the Amazons.

Tributaries: These are small rivers that join the main river. The main river along with all its tributaries that drain an area form a river basin or the catchment area. The Amazon Basin is the largest river basin in the world.

## **Climate**

The Amazon Basin stretches directly on the equator and is characterized by hot and wet climate throughout the year.

Both day and nights are almost equally hot and humid. The skin feels sticky. It rains almost everyday, that too without much warning.

The day temperatures are high with very high humidity. At night the temperature goes down but the humidity remains high.

## **Rainforests**

As it rains heavily in this region, thick forests grow.

Orchids, bromeliads grow as plant parasites.

Bromeliads are special plants that store water in their leaves. Animals like frogs use these pockets of water for laying their eggs.

The rainforest is rich in fauna.

Birds such as toucans, humming birds, bird of paradise with their brilliantly coloured plumage, oversized bills for eating make them different from birds we commonly see in India. These birds also make loud sounds in the forests.

Animals like monkeys, sloth and ant-eating tapirs are found here.

Various species of reptiles and snakes also thrive in these jungles.

Crocodiles, snakes, pythons abound. Anaconda and boa constrictor are some of the species.

Besides, the basin is home to thousands of species of insects. Several species of fishes including the flesh eating Piranha fish is also found in the river. This basin is thus extraordinarily rich in the variety of life found there.

## **People of the Rain forests**

While men hunt and fish along the rivers, women take care of the crops.

They mainly grow tapioca, pineapple and sweet potato. They practice Slash and Burn (way of cultivating land where farmers clear a piece of land by slashing or cutting down trees and bushes. These are then burnt, which releases the nutrients into the soil. Now crops are grown in this cleared field for a few years.) The staple food is manioc, also known as cassava that grows under the ground like the potato. They also eat queen ants and egg sacs. Cash crops like coffee, maize and cocoa are also grown.

Families live in thatched houses shaped like beehives. There are other large apartment-like houses called "Maloca" with a steeply slanting roof.

Life of the people of the Amazon basin is slowly changing. In the older days the heart of the forest, could be reached only by navigating the river. In 1970 the Trans Amazon highway made all parts of the rainforest accessible. Aircrafts and helicopters are also used for reaching various places. The indigenous population was pushed out from the area and forced to settle in new areas where they continued to practice their distinctive way of farming

The top soil is washed away as the rains fall and the lush forest turns into a barren landscape.

(Deforestation)

## **Life in the Ganga-Brahmaputra Basin**

The basin lies in the sub-tropical region that is situated between 10°N to 30°N latitudes.

The tributaries of the River Ganga like the Ghaghra, the Son, the Chambal, the Gandak, the Kosi and the tributaries of Brahmaputra(Yarlung Tsangpo in Tibet, Siang/Dihang River in Arunachal Pradesh and Luit or Dilao in Assam) drain it.

The plains of the Ganga and the Brahmaputra, the mountains and the foothills of the Himalayas and the Sundarbans delta are the main features of this basin. Oxbow lakes dot the plain area.

The area is dominated by monsoon climate. The monsoon brings rains from mid-June to mid-September. The summers are hot and the winters cool.

The mountain areas with steep slopes have inhospitable terrain. Therefore less number of people live in the mountain area of the GangaBrahmaputra basin.

The plain area provides the most suitable land for human habitation. The soil is fertile.

Agriculture is the main occupation of the people where flat land is available to grow crops. The density of population of the plains is very high. The main crop is paddy.

Wheat, maize, sorghum, gram and millets are the other crops that are grown. Cash crops like sugarcane and jute are also grown. Banana plantations are seen in some areas of the plain.

In West Bengal and Assam tea is grown in plantations. Silk is produced through the cultivation of silk worms in parts of Bihar and Assam.

In the mountains and hills, where the slopes are gentle, crops are grown on terraces.

In the Ganga and Brahmaputra plain tropical deciduous trees grow, along with teak, sal and peepal. Thick bamboo groves are common in the Brahmaputra plain.

The delta area is covered with the mangrove forests. In parts of Uttarakhand, Sikkim and Arunachal Pradesh, coniferous trees like pine, deodar and fir can be seen because the climate is cool and the slopes are steep.

Elephants, tigers, deer and monkeys are common. The one-horned rhinoceros is found in the Brahmaputra plain. In the delta area, Bengal tiger, crocodiles and alligator are found. Aquatic life abounds in the fresh river waters, the lakes and the Bay of Bengal Sea. The most popular varieties of the fish are the rohu, catla and hilsa. Fish and rice is the staple diet of the people living in the area.

**Terrace Farming:** Terraces are built on steep slopes to create flat surfaces on which crops are grown. The slope is removed so that water does not run off rapidly.

In the fresh waters of River Ganga and River Brahmaputra, a variety of dolphin locally called Susu (also called blind dolphin) is found. The presence of Susu is an indication of the health of the river.

The Ganga-Brahmaputra plain has several big towns and cities. The cities of Allahabad, Kanpur, Varanasi, Lucknow, Patna and Kolkata.

Taj Mahal on the banks of River Yamuna in Agra, Allahabad on the confluence of the Rivers Ganga and Yamuna, Buddhists stupas in Uttar Pradesh and Bihar, Lucknow with its Imambara, Assam with Kaziranga and Manas with wild life sanctuaries and Arunachal Pradesh with a distinct tribal culture are some of the places worth a visit.

## **Chapter 9: Life in the Temperate Grasslands**

Grassland can be defined as a region where grasses form the dominant type of plant life.

Grasslands make up almost a quarter of the total land surface.

On the basis of climate on which grasslands mainly depend on is classified into 2 types.

Temperate region & Tropical region

### **The Prairies** (Latin prata - meadow)

The temperate grasslands of North America are known as the Prairies.

It is a region of flat, gently sloping or hilly land.

For the most part, prairies are treeless but, near the low lying plains, flanking river valleys, woodlands can be found.

Tall grass, upto two metres high, dominates, the landscape. It is actually a **sea of grass**.

The prairies are bound by the Rocky Mountains in the West and the Great Lakes in the East.

Cover parts of United States of America and parts of Canada.

In the USA, the area is drained by the tributaries of Mississippi and the Canadian prairies are drained by the tributaries of Saskatchewan Rivers.

The grasslands of Prairies were the home of American Indians, more popularly known as **Blackfoot Indians**. The Prairies were home of other tribes also like the Apache, the Crow, the Cree and the Pawnee.

### Climate

Being located in the heart of a continent, the climate is of continental type with extreme temperatures.

The summers are warm with temperatures of around 20°C, while in winter -20°C has been recorded in Winnipeg, Canada.

In winters a thick blanket of snow covers this region. The annual rainfall is moderate and is ideal for the growth of grass.

Due to the absence of the north-south barrier, a local wind Chinook blows here.

**Chinook** is a hot wind that blows in winter and therefore raises the temperature in a short time. This increase in temperature results in the melting of snow, making pasture land available for grazing of animals.

### Flora and Fauna

Prairies are practically tree-less. Where water is available, trees such as willows, alders and poplars grow. Places that receive rainfall of over 50 cm, are suitable for farming as the soil is fertile.

Though the major crop of this area is maize, other crops including potatoes, soybean, cotton and alfa-alfa are also grown.

Areas where rainfall is very little or unreliable, grasses are short and sparse. These areas are suitable for cattle rearing.

Large cattle farms called ranches are looked after by sturdy men called **cowboys**.

Bison or the American buffalo is the most important animal of this region.

It nearly got extinct due to its indiscriminate hunting and is now a protected species.

The other animals found in this region are rabbits, coyotes, gophers and Prairie dog.

### People

The people of this region are very hardworking. They have successfully harnessed technology to utilise their rich natural resources.

Two of the most developed countries in the world - the USA and Canada are located in this region.

Scientific methods of cultivation and use of tractors, harvesters and combines has made North America a surplus food producer.

The Prairies are also known as the **Granaries of the world**, due to the huge surplus of wheat production. Dairy farming is another major industry. The dairy belt extends from the Great Lakes to the Atlantic Coast in the east.

Dairy farming and extensive agriculture both promote setting up of food processing industries.

Large mineral deposits particularly coal and iron and a good network of roads, railways and canals in this region have made it the most industrialised region in the world.

Important cities in the USA are Chicago, Minneapolis, Indianapolis Kansas and Denver. In Canadian prairies the important cities are Edmonton, Saskatoon, Calgary and Winnipeg.

## **The Velds**

The Veld name was given by the Dutch settlers before South Africa was colonised by the British.

The temperate grasslands of South Africa are called the velds.

Velds are rolling plateaus with varying heights ranging from 600 m to 1100 m.

It is bound by the Drakensberg Mountains on the east. To its west lies the Kalahari desert.

On the northeastern part, "high velds" are located that attain a height of more than 1600 m, in some places.

The tributaries of rivers Orange and Limpopo drain the region.

## **Climate**

The velds have a mild climate due to the influence of the Indian Ocean. Winters are cold and dry.

Temperatures vary between 5°C and 10°C and July is the coldest month.

Summers are short and warm. Johannesburg records about 20°C temperature in the summer.

The velds receive rainfall mainly in the summer months from November to February.

This is mainly because of the warm ocean currents that wash the shores of the velds.

If the rainfall is scanty in the winter months from June till August, drought may occur.

## **Flora and Fauna**

The vegetation cover is sparse.

Grasses dominate the landscape. Red grass grows in bush velds.

In the high velds acacia and maroola are seen to be growing.

The animals of the velds are primarily lions, leopards, cheetah and kudu.

## **People**

Velds are known for cattle rearing and mining.

The soils are not very fertile in the velds due to the presence of discontinuous grasses exposing barren surface.

The main crops are maize, wheat, barley, oats and potato.

Cash crops like tobacco, sugarcane and cotton are also grown.

Sheep rearing is the most important occupation of the people.

Sheep is bred mainly for wool and has given rise to the wool industry in the velds. Merino sheep is a popular species and their wool is very warm.

Dairy farming is the next important occupation.

Cattle are reared in the warmer and wetter regions and the dairy products like butter, cheese are produced for both domestic supply and also for export.

The velds have rich reserve of minerals.

Iron and steel industry has developed where coal and iron are present.

Gold and diamond mining are major occupations of people of this region. Johannesburg is known for being the gold capital of the world. Kimberley is famous for its diamond mines.

Mining of diamond and gold in South Africa led to the establishment of trade ties with Britain and gradually South Africa became a British Colony. This mineral rich area has a well-developed network of transport.

## Chapter 10: Life in the deserts

**Desert:** It is an arid region characterized by extremely high or low temperatures and has scarce vegetation. Depending on the temperatures there can be hot deserts or cold deserts. The people inhabit these lands wherever little water is available to practise agriculture.

### The Hot Desert - Sahara

It is the world's largest desert. (8.54 million sq. km)

It touches eleven countries. Algeria, Chad, Egypt, Libya, Mali, Mauritania, Morocco, Niger, Sudan, Tunisia and Western Sahara.

Besides the vast stretches of sands, it is covered with, there are also gravel plains and elevated plateaus with bare rocky surface. These rocky surfaces may be more than 2500m high at some places.

Sahara once used to be a lush green plain. Cave paintings in Sahara desert show that there used to be rivers with crocodiles. Elephants, lions, giraffes, ostriches, sheep, cattle and goats were common animals. But the climate has changed it to a very hot and dry region.

### Climate

The climate is scorching hot and parch dry. It has a short rainy season.

The sky is cloudless and clear. Here, the moisture evaporates faster than it accumulates.

Days are unbelievably hot. The temperatures during the day may soar as high as 50°C, heating up the sand and the bare rocks, which in turn radiates heat making everything around hot.

The nights may be freezing cold with temperatures nearing zero degrees.

Al Azizia in Sahara desert, south of Tripoli, Libya recorded the highest temperature of 57.7°C in 1922.

### Flora and Fauna

Vegetation in the Sahara desert includes cactus, date palms and acacia.

In some places there are oasis – green islands with date palms surrounding them. Camels, hyenas, jackals, foxes, scorpions, many varieties of snakes and lizards are the prominent animal species living there.

### People

The Sahara desert has been inhabited by Bedouins and Tuaregs.

These groups are nomadic tribes rearing livestock such as goats, sheep, camels and horses.

These animals provide them with milk, hides from which they make leather for belts, slippers, water bottles; hair is used for mats, carpets, clothes and blankets.

They wear heavy robes as protection against dust storms and hot winds.

The oasis in the Sahara and the Nile Valley in Egypt supports settled population.

Since water is available, the people grow date palms.

Crops such as rice, wheat, barley and beans are also grown. Egyptian cotton, famous worldwide is grown in Egypt.

Oil is found in Algeria, Libya and Egypt and other minerals are iron, phosphorus, manganese and uranium. Gleaming glass cased office buildings tower over mosques and superhighways crisscross the ancient camel paths.

Tuaregs are seen acting as guides to foreign tourists. More and more nomadic herdsmen are taking to city life finding jobs in oil and gas operations.

### Oasis

Depressions are formed when the wind blows away the sands. In the depressions where underground water reaches the surface, an oasis is formed.

These areas are fertile. People may settle around these water bodies and grow date palms and other crops. Sometimes the oasis may be abnormally large.

Tafilalt Oasis in Morocco is a large oasis with an area of about 13,000 sq.km.

### The Cold Desert - Ladakh (La - mountain pass and Dak - country)

Also known as **Khapa-Chan** which means snow land.

The Karakoram Range in the north and the Zanskar mountains in the south enclose ladakh.

Several rivers flow through it(Indus imp) form deep valleys and gorges.

Several glaciers are found in Ladakh, for example the Gangri glacier.

The altitude in Ladakh varies from about 3000m in Kargil to more than 8,000m in the Karakoram.

Due to its high altitude, the climate is extremely cold and dry.

The air at this altitude is so thin that the heat of the sun can be felt intensely.

The day temperatures in summer are just above zero degree and the night temperatures well below 30°C.

It is freezing cold in the winters when the temperatures may remain below 40°C for most of the time.

As it is in rain shadow of the Himalayas, there is little rainfall, as low as 10 cm every year.

The area experiences freezing winds and burning hot sunlight.

### Flora and Fauna

Due to high aridity, the vegetation is sparse. There are scanty patches of grasses and shrubs for animals to graze.

Groves of willows and poplars are seen in the valleys.

During the summers, fruit trees such as apples, apricots and walnuts bloom.

Several species of birds are sighted in Ladakh. Robins, redstarts, Tibetan snowcock, raven and hoopoe are common. Some of these are migratory birds.

The animals of Ladakh are wild goats, wild sheep, yak and special kinds of dogs, are reared to provide for the milk, meat and hides. Yak's milk is used to make cheese and butter. The hair of the sheep and goat is used to make woollens.

The Chiru or the **Tibetan antelope** is an endangered species. It is hunted for its wool known as shahtoosh, which is light in weight and extremely warm.

### People

The people here are either Muslims or Buddhists.

In fact several Buddhists monasteries dot the Ladakhi landscape with their traditional 'gompas'. Some famous monasteries are Hemis, Thiksey, Shey and Lamayuru.

In the summer season the people are busy cultivating barley, potatoes, peas, beans and turnip.

The climate in winter months is so harsh that people keep themselves engaged in festivities and ceremonies.

The women are very hard working. They work not only in the house and fields, but also manage small business and shops.

Leh, the capital of Ladakh is well connected both by road and air. The National Highway 1A connects Leh to Kashmir Valley through the Zoji la Pass.

Manali - Leh highway crosses four passes, Rohtang la, Baralacha la Lungalacha la and Tanglang la. The highway opens only between July and September when snow is cleared from the road.

Tourism is a major activity with several tourists streaming in from within India and abroad.

Visits to the gompas, treks to see the meadows and glaciers, witnessing ceremonies and festivities are important activities.

Life of people is undergoing change due to modernisation. But the people of Ladakh have over the centuries learned to live in balance and harmony with nature.

Due to scarcity of resources like water and fuel, they are used with reverence and care. Nothing is discarded or wasted.