

UNIT - I

TOURISM PRODUCTS & ITS FEATURES

Tourism as we have understood so far is the phenomena that encompass many related services under its broad ambit. Some people say tourism is a business of networking. Tourism is basically a service industry. Tourism services differ from other manufacturing goods in terms of four main factors viz. intangibility, heterogeneity, perishability, and inseparability.

First, tourism services are intangible since they cannot be inspected and sampled in advance before the actual purchase is made. Therefore, an amount of risk is involved on the part of the purchaser. For example, a tourist 170 booking a hotel room through a travel agent may not have any knowledge about it.

In one way, this helps the marketer as there is no physical distribution of the product and no storage of the product is required. However, intangible products suffer from many drawbacks as lack of actual delivery by middlemen like travel agent reduces their commitment to the product. The use of a reservation system to book rooms and airlines seats unnecessarily adds to the cost of the product without adding any value to it. Thus, a marketer must try to present the product in form of brochures and development video cassettes to overcome the drawbacks.

Secondly, tourism products are heterogeneous, unlike other manufacturing goods. A TV set, or a motor bike are units in mass production sharing identical characteristics. Although package tour has gone a long way in making the experience standardized in association with the airlines, hotels, and other providers, some aspects of the product are beyond control of any operator. For example, a rain during the tour can spoil the experience and a strike in the high ways can obstruct the movement of traffic. These are the instances on which the operator does not have any control.

Third, tourism product is highly perishable. A piece of mobile phone, if is not sold in a shop can be sold on the next day or may be after a month with some discount. However, an unsold hotel room for a day and a flight with an empty seat is lost forever. Tourism industry suffers from time variable demand. Tourism demand is normally more during the peak season. And in off season, the rooms remain empty for certain duration to increase the overall cost of the product.

This is the most important aspect in tourism marketing especially in pricing the products. Pricing strategies can help in spreading demand by offering substantial discounts during the off season to an extent.

Finally, tourism services are inseparable from its seller. While buying a television set, a customer brings the product to home after a demo at the shop. The seller may not be present in the consumption or use of the goods. Whereas, the guide needs to be present during his description about the product and a tourist enjoys the description of guide at the destination. The travel agent sells the product, the airline cabin crews cater to the needs of the travelers, and the front office executive receives guests are some of the examples of tourism services.

TYPES OF TOURISM PRODUCT

I. On the Basis of Usage of Products

Tourism product can be studied from two different perspectives i.e. from the perspective of the suppliers (sellers) and that of the consumers (tourists). Services produced by suppliers may range from transportation, lodging, food and beverages, entertainment facilities and so on. Similarly, tourists or consumers may demand the products based on their satisfying needs such as attraction, amenities and accessibility. Further such needs may be categorized on the basis of tourists' participation and use of natural resources of a country.

While suppliers based categorization will be studied as part of tourism systems, this unit will focus on consumers' participation in natural resources and typology based on such participation.

II. On this Basis of Attractions Types

On this basis of attractions types, tourism products can be classified into Natural, Man made and symbiotic products.

i Natural Tourism Product

This kind of product includes mostly attractions that act as a pull factor for a visitor to visit a destination. Natural settings such as unique landscape, dense forest, mountains, lakes and beaches have traditionally been centre for attraction for tourists worldwide.

ii Man-made Tourism Product

Human being over centuries, have created facilities for comfort of living. Such creations are natural manifestations of human endeavor in the process of evolution. Such manifestations, elegant structure or facilities by creative humans become attraction for commons in the civilisation. These types of products include not only core attractions but facilities and services those have made a mark in themselves and have become attractions for most.

For example palace on wheel, tourists train basically a mode for transportation is graduated as an attraction in itself. Theme park is another example of man-made attraction, which means the basic term for a compilation of rides and other amusement attractions pull together for the purpose of entertaining a group of people.

A theme park includes a combination of attractions which can be classified into several categories: thrill rides, roller coasters, family rides, water attractions or (indoor) dark rides. Major part of theme parks' revenue comes from entrance fees. Most theme parks also charge for car parking and ticket prices do not include food, which can be very costly. Almost all amusement parks operate using one of two admission principles: Pay as you go (pay for rides individually) or Pay one price (one big admission charge, for almost all of the attractions).

iii Symbiotic Tourism Product

Apart from pure natural and man-made products there are some types of products which are blend of both natural and man-made features. For instance a zoo, a water park, aero sports zone are a human creations at natural attractions. Nature here is the core resource on which human being has created facilities. These products thus are called as creations by symbiosis of nature and man.

III. On the Basis of Site and Event Based Attraction

The tourism products can be categorised differently when the attraction is the congregation of human beings or when the attraction is a site or geographical destination.

i. Site Based Tourism Products

When an attraction is a physical setting at place or a site it is termed as site based tourism product. As physical settings such sites are permanent and can only be modified but can not be replaced totally. For examples beaches, hill stations, monuments & historical places. There are occasions/ seasons however when tourists flock to the destination in large number.

ii. Event Based Tourism Products

Where an event is an attraction, tourists visit the event as spectators, participants or sometimes for both. The events may be traditional, occasional or promotional in nature. The

famous kumbh mela at Allahabad, Ujjain, Nasik and Hardwar, Rath-Yatra (car festival) at Jaggannath Puri are traditional gathering of more than lakhs of pilgrims. Occasional events are social or cultural gatherings for examples marriages, kitty parties, conferences and conventions or business meets where participants belong to specific target group.

On the other hand promotional events are gatherings organised to popularize the destination or a company product or are gatherings for some specific purpose. Indian Premiere League (IPL) is promotional event organised by Board of Cricket Control India (BCCI) and is attended by lakhs of spectators. Event as tourist attractions are temporary, and are often mounted in order to increase the number of tourists to a particular destination.

NATURAL, SOCIO CULTURAL, DIVERSITIES IN LANDFORMS & LANDSCAPES – CLIMATE

Indian Culture

India which is also called Bharat is one of the few countries which can boast of an ancient, deep rooted and diverse culture, which stretches back to 5000 years. In the ancient times India was known as 'Bharata Varsha', the country of the legendry king of Puranic times called Bharat. The culture of India has been shaped by the long history of India, its unique geography and the absorption of customs, traditions and ideas from some of its neighbors as well as by preserving its ancient heritages, which were formed during the Indus Valley Civilization and evolved further during the Vedic age, rise and decline of Buddhism, Golden age, Muslim conquests and European colonization.

India's great diversity of cultural practices, languages, customs, and traditions are examples of this unique co-mingling over the past five millennia. Hinduism is considered to be the oldest of all living religions on this human earth.

Indian Physiography

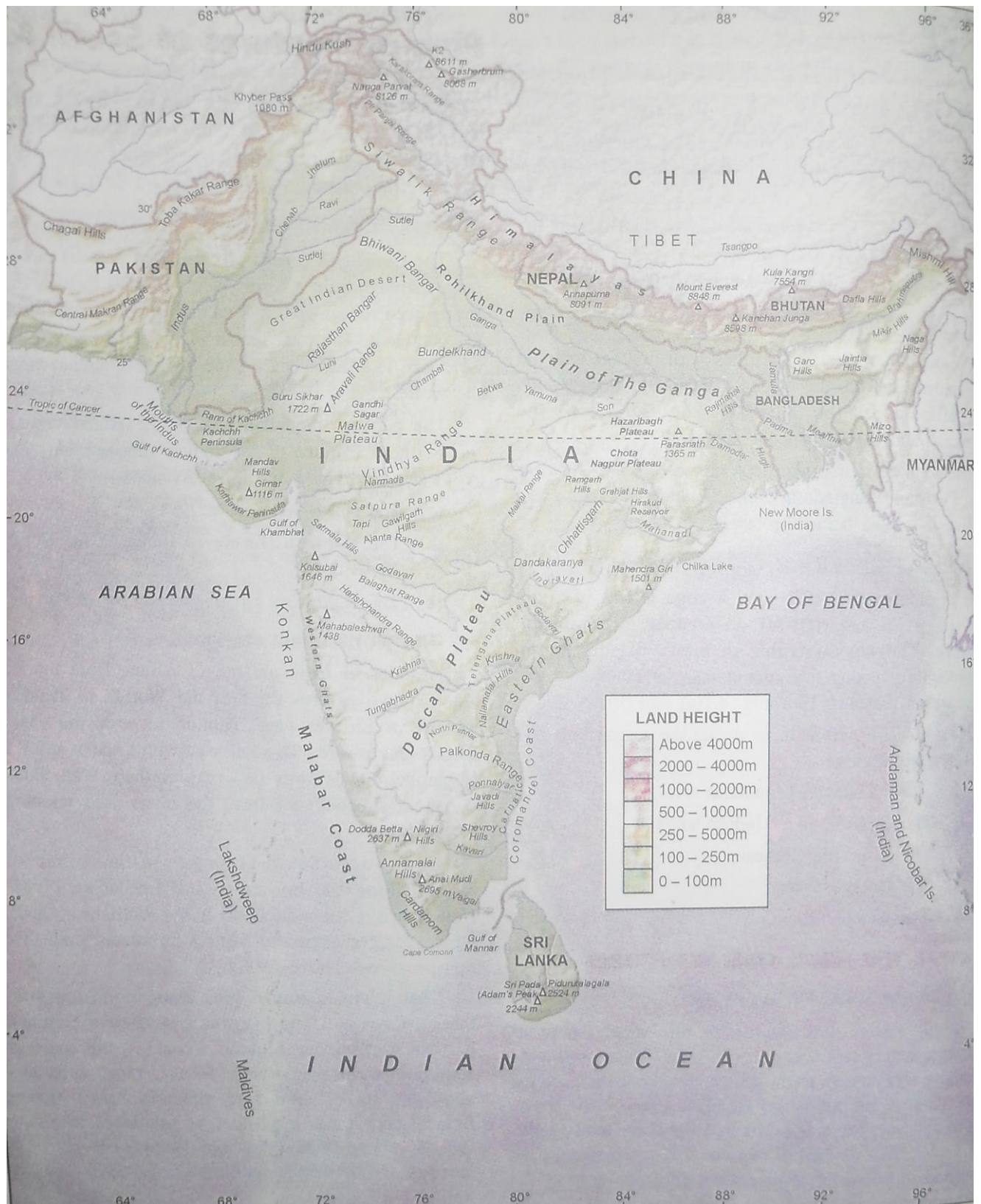
Physiography is defined as the science of physical geography or systematic description of nature in general, it is also known as geomorphology. India geographically has a well defined frontiers. Mountains to the north, north-west, north-east, seas to the east, south and west make the country a distinct landmass. With an area of 32,87,263 sq. Km. The country India is the seventh largest country in the world.

The mainland of the country spreads from 8.4 degree north to 37.6 degree north latitude and 68.7 degree east to 97.25 degree east longitude. Tropic of cancer divides the country into almost two equal parts. India is surrounded by Pakistan and Afghanistan to the northwest, China, Nepal and Bhutan to the north, Myanmar and Bangladesh to the east as neighboring countries. The Physical geography of India is discussed below under the following heads viz. Mountains, Rivers, Plateaus, Plains, Climate and Vegetation.

List of important mountain ranges in India

- The Himalayans Mountain Ranges
- The Aravalli Mountain Ranges
- The Vindhya Mountain Ranges
- The Satpura Mountain Ranges
- The Karakoram Mountain Ranges
- The Patkai or the Purvanchal Mountain Ranges
- The Eastern Ghats

The Western Ghats



Physical Division of India

India is a vast region that has a great variety of different geological structures. It is, however, possible to divide the region into five physiographic regions, namely –

- The Mountain
- The Great Plain of Indus & Ganga
- The Peninsular Plateau
- The Coastal Plains

- The Islands

The Mountains

About 120 million years ago, the arrangement of continents and Oceans was quite different. There used to be a shallow area, known as the Tethys Sea, lying between the Angara land in the north and Gondwanaland in the south. Literary meaning of the Himalayas is 'abode of snow'. Considered to be the youngest mountain range of India, the Great Himalayas was born during Gandwana period some 50 millions years ago. The mountain born out of collision of two tectonic plates is called fold-mountains and the Himalayas is such a mountain.

Division of the Himalaya

The Himalaya consists of a series of parallel mountain ranges stretching in a north west to south east direction. The total length of the Himalayan is about 2415 km. The Himalayas are the highest mountain range in the world. It is divided into three divisions, namely

- The Northwest Himalayan Range
- The Northern Himalayan Range
- The Northeast Himalayan Range

(i) The Northwest Range

A series of mountain ranges radiate from Pamir Knot – Hindukush toward south westward, Kunlun towards the east and Karakoram towards the south – east with Ladakh and Zaskar as parallel ranges from the great northern wall. The northern western ranges are almost dry, devoid of any vegetation. They have three prominent passes associated with three small rivers – The Kabul, The Gomal and The Bolan.

(ii) The Northern Range

The great Northern Range run in the form of a convex arc from Kashmir in the west to Assam in the east. It is a very high range and has the distinction of having the highest peaks of the world. The Great Himalayan Range extends from west to east over 2400 km. It's comprises three distinct, parallel ranges.

The Himadri or The Great Himalaya – Overlooking the Tibetan Plateau (5000 to 6000 m above sea level), it is also called Inner Himalayan

- The Middle or The Lesser Himalayan – also called Himachal at an elevation of about 3000 m;
- The Shiwalik Range or The Outer Himalayan – whose height varies between 1000 to 1500 m above sea level.

(iii) The North East Himalayan Ranges

On India's northeast side are located the Purvanchal Mountain (the Eastern Hills). These hills running through Arunachal Pradesh, Nagaland, Manipur, Mizoram, Tripura and eastern Assam are series of hills mostly composed of sedimentary rocks with steeper western slopes and are highly dissected and slightly accurate (bent like a bow) with convex side facing west.

The Great Plain of India

To the south of the Himalaya and to the north of the peninsula lies the Great Plain of North India. It is a gradational plain formed by the depositional work of three major river systems viz the Indus, Ganga and the Brahmaputra. The Great Plain of North is the largest alluvial tract of the world extending nearly 3200 km and having average width that varies from 150-300 km. It

covers a total area of about 7.8 lakh sq km. The northern boundary of the plain is well-defined by the foothills of the Shiwaliks. Average elevation of this plain vary upto 200 m above sea level.

Regional Division of the Great Plain of India

- The Rajasthan Plain
- The Indus Punjab-Haryana Plain
- The Ganga Plain
- The Brahmaputra Plain

The Rajasthan Plain

The Rajasthan Plain extensively is sandy desert in the northern India and eastern Pakistan. This Plain is also called the Thar or The Great

Indian Desert. Thar Desert is bounded on the northwest by the Sutlej river, on the east by the Aravalli Range, on the south by the Rann of Kutch and by the Indus Valley on the west. It covers an area of about 800km in length and about 490 km in width. The total area of this plain is above 3.35 lakh sq km. The average elevation of the plain is about 457 m in the Aravalli and 61 m in the Rann of Kutch, above sea level. A number of short seasonal streams originate from the Aravalli.

The Indus Plain

The Great Indian Desert imperceptibly gives way to the fertile plain of the Punjab and Haryana towards the east and north-east. Extending to a length of 640 km in north-west to south-east direction and about 300 km wide in east-west direction the total area of this plain is above 1.75 lakh sq km, the region is drained by the river Indus and its tributaries viz the Sutlej, the Beas, the Ravi, the Chenab and the Jhelum. The northern part of this plain adjoining the shiwaliks hills. The area between the Ghaggar and the Yamuna rivers lies in Haryana and is often termed as 'Haryana Tract'.

The Ganga Plain

This is the largest unit of the great plain of India stretching from Delhi to Kolkata in the of Uttar Pradesh, Bihar and West Bengal covering an area of about 3.75 lakh sq km. This plain has been named after the river Ganga. The Ganga along with its large number of tributaries originating in the Himalayan ranges viz, the Yamuna, the Gomti, the Ghaghara, the Gandak, the Kosi, etc., create a tract of river basins those are very fertile. The Peninsular river such as Chambal, Betwa, Ken, Son, etc., merge into the Ganga river system contributing to the formation of this plain.

The Brahmaputra Plain

Also known as the Brahmaputra Valley or Assam Valley or Assam Plain is often treated as the eastern continuation of the great Plain of India. It extends from the Eastern Himalays of Arunachal Pradesh in the north, Patkai and Naga Hills in the east and the Garo-Khasi-Jaintia and Mikir Hills in the South. Its western boundary is formed by the Indo-Bangladesh border as well as the boundary of the lower Ganga plain. The entire plain covers an area of about 56 thousands sq km.

The Peninsular Plateau

Plateau is a high raised flat terrain and is otherwise known as table land or high land. The Peninsular Plateau of India extends from edge of Great Plain of India in the north and the Kanniyakumari in the south. In the west it extends from Kuchchh along the western bank of the

Aravalli Range to near Delhi in the Ganga delta. It is surrounded by the hill ranges on all three sides. To its north are the Aravalli range, the Vindhya, the Satpura, Barmr and the Rajamahar Hills. To the south of about 22 degree North latitude, the Western Ghats and the Eastern Ghats form its western and eastern boundary respectively. The entire plateau measures about 1600 km in north-south and 1400 km in east-west direction. It covers a total area of about 16 lakh sq km which is about half of the total land area of the country. It is thus, the largest physiological unit of India.

Division of the Peninsular Plateau	Hill Ranges of the Paninsula
The Marwar Upland	The Aravali Range
The Central Highland	The Vindhya Range
The Bundelkhand Upland	The Satpura range
The Malwa Plateau	The Western Ghats
The Bangelkhand	The Eastern Ghats
The Chotanagpur Plateau	
The Meghalaya Plateau	
The Deccan plateau	

Konkan Plain, The Karnatka Coastal Plain and The Kerala Plain. The East Coastal Plain is divided into three namely, The Utkal Plain, The Andhra Plain and The Tamil Nadu Plain.

Perennial Himalayan Rivers

The rivers flowing from the great Himalayas are both rain fed and glacial fed. As during rainy season they carry rain water and during summers, the ice melt and such waters flow in these rivers. For this the rivers flowing for the Himalaya are perennial. Though there are several river systems flowing from the Himalayas, the below mentioned three are most important.

(i) The Indus System

One of the largest river basin in the world the Indus river system comprises of five main tributaries namely the Jhelum, the Chenab, the Ravi, the Beas and the Sutlej. The Indus originates in the Tibet near Mansarovar lake. From the origin it flows north-westward it enters India near Damchok in Jammu and Kashmir. After flowing through Ladakh, Baltistan and Gilgit it enters Pakistan near Chilas in the Dardistan region.

(ii) The Ganga System

Popularly known as the Ganga, the river is the longest in the country. Sacred to the Hindus, the river originates in the name of Bhagirathi from the Himalayas, at Gaumakh. However the name Ganga follows only after the confluence of river Bhagirathi and Alaknanda at Devaprayag, a small town 74 kilometers from Rishikesh in the Garhwal Himalaya. Though the river has so many streams joining the flow, there are six popular main streams namely Alaknanda, Dhauliganga, Nandakini, Pindar, Mandakini and Bhagirathi and five of their confluence namely *Panch Prayag* in order Bishnu Prayag (Dhauliganga merges into Alaknanda), Nanda Prayag (Nandakini joins Alaknanda), Karnaprayag (Pindar joins Alaknanda), Rudraprayag (Mandakini joins Alaknanda) and Devaprayag (confluence of Bhagirathi and Alaknanda) are popular and considered to be sacred in India. The river Ganga is 2510 kilometer long and flows through China, India, Nepal and Bangladesh. The basin of the river Ganga is one of the most fertile and densely populated region in the world covering an area of 400 000 sq miles (1 000 000 sq km). Other main tributaries to the river Ganga are Yamuna, Son, Gomati, Ghaghara, Gandak, Kosi and Brahmaputra.

The river Yamuna the western most prominent tributary of the Ganga originates in the Yamunotri glacier, and travels more than 750 kilometers before it merges into the Ganga at Allahabad. Tributaries like Chambal, Betwa, and Ken flow northward to merge into river Yamuna before the river Yamuna itself merges into the Ganga.

(iii) The Brahmaputra

The Brahmaputra River flows 2,900 km from its source in the Kailas range near Mansarovar lake around same region from where the Indus originates in the Trans-Himalayan region. From the origin it traverses eastward in the Tibetan region of China and enters India west of Sadiya town in Arunachal Pradesh. The river finally enters Bangladesh near Dubari and then flowing southwards it merges into Padma river which discharges in the Bay of Bengal. The flows through China, India, and Bangladesh, but its watershed includes Nepal, Bhutan and Myanmar as well.

The Peninsular Rivers

The peninsular rivers are considered to be older than the Himalayan river system. A large numbers of rivers here are non-perennial and dependent on the rainfall. The main river basins of the peninsula are the Mahanadi, Godavari, Krishna, Kaveri those discharge their waters in the Bay of Bengal. Rivers flowing westward are small and do not form delta. Most important amongst them are Narmada and Tapti.

The river Narmada's originates from the mountains 'Maikal' in Madhya Pradesh. It rises on the summit of Amarkantak Hill in the Madhya Pradesh state and pursues a direct westerly course to the Gulf of Khambhat. It falls into the sea in the Bharuch district of Gujarat. Similarly the river Tapti rises in the Eastern Satpura range in Madhya Pradesh and going westward it drains into the Arabian Sea.

The river Kaveri flows through the states of Karnataka and Tamil Nadu after originating from the Brahmagiri Mountains in Mysore at a height of 1320 metres above sea level. This river runs through some of the most fertile lands of South India.

Godavari the longest river of South India with a drainage area of 313,000 sq kms flowing with its tributaries in seven different states like Maharashtra, Andhra Pradesh, Karnataka, Madhya Pradesh, Chattisgarh and Orissa. Its tributaries include Sabari, Indravati, Pranahita and Manijra rivers.

Krishna originates in the Western Ghats at an altitude of 1300 ft above the sea level in Mahabaleshwar and merges into Bay of Bengal flowing through the three states Maharashtra, Karnataka and Andhra Pradesh. it covers an approximate length of 1300 kms.

Coastal Rivers

The coastal rivers are present in the peninsula of India and they drain into the Arabian Sea and Bay of Bengal. The important rivers which drain into Arabian Sea are Shetrunji, Bhadra, Dhadhar, Vaitarna, Bharathapuzha, Bedti, Sharavati and Periyar. The Shetruni originate near Dalkahwa in Amreli district and Dhandhar near Ghantar village in Panchmahal district in Gujarat which has a 2770 m² area of basin. The Sharavati originates in the Shimoga district of Karnataka and has the famous Jog Water Falls. The Bharatpuzha being the longest river in Kerala is also known as the Ponnani. The rivers which drain into the Bay of Bengal are Subarnarekha, Baitarani, Brahmani, Vamsadhara, Penner, Palar and Vaigai. The Vamsadhara rises in the southern part of Odisha through Andhra Pradesh and flows into the Bay of Bengal. The Palar has the basin area of about 17,870 km². The attributes of the minor coastal rivers are steep gradients, heavy silts and flashy flow. These rivers are the major source of irrigation of agricultural lands in the coastal areas.

Soil

As the nature of the land changes, the type of vegetation also changes. The vegetation in the mountainous region would be different from that of plateau region or plain region. Similarly the dry region would have different vegetation than the wet region. The fertile land is used for

agricultural purpose where as the undulated grasslands and the rough terrains of the woodlands are a home to variety of animals. There is a difference in the quality of soil which decides the type of vegetation. The cactus and the thorny bushes are grown in the sandy soil where as the mangroves grow in the deltaic soil. The conical trees can be sighted in the hill slopes which have some depth of soil. The temperature determines the attribute of the vegetation along with the factors like humidity, precipitation and soil.

Soil regions of India

Aridisols: Northwestern India. Because of Salts content and lack of organic matter the quality of soils and less fertile.

Alfisols: Northern sections of the Gangetic plain and extending to Kathiawar Peninsula. They are also found in area south of 20 degrees N latitude and along the Coromandel Coast.

Inceptisols: Found in the Gangetic plains and the Malabar Coast. They are fertile but weakly developed soils.

Vertisols: An extensive area from north of Mumbai (Bombay) to the Ganges River. These soils are rich in clays and crack deeply during dry periods.

Ultisols: They are found in northeastern India (Bihar and Orissa).

Climate

The seasonal reversal of wind systems being experienced in some regions of the world is called as the monsoon. Air flows from land to sea with dry conditions in winter and a sea-to-land movement in summer with humid conditions which create rainfall. The monsoon is the dominant climatic force. The causes of the monsoon in India are the shifting of the Jet stream north and south of the Himalayas and the differential heating between land and water.

During the summer the jet stream moves north of the Himalayas allowing moist air to penetrate the continent from the oceans and in winter, the jet stream is divided with one part south of the Himalayas. The air movement effectively prevents moisture from the oceans from moving into the core area of India.

The Indian Meteorological Department recognizes four season:-

- Winter Season (December – February)
- The Summer season (March – May)
- The Rainy Season (June – September)
- The Post Monsoon Season (October – November)

These are four broad climates – regions based on the rainfall. Practically entire Assam and its neighborhood, the Western Ghats and the adjoining coastal strip and parts of the Himalayas experience rainfall throughout the year. Some places in the Khasi and Jaintia hills of Meghalaya receive the highest rainfall in the world. Mawsynram in Meghalaya is the place that receives highest rainfall in the world. In contrast, Rajasthan, Kutch and the high Ladakh plateau of Kashmir extending westward to Gilgit are regions of low rainfall. While the rainy season in most parts of the country is from June to September, the region of Tamil Nadu and Andhra Pradesh experiences rain fall during October – November because of retreating rainfall.

Climatic Regions

Tropical rainforest: Coromandel and Malabar coastal regions.

Humid subtropical: Ganges Valley.

Tropical savanna: Western reaches of Vindhya

Subtropical steppe: Deccan Plateau

Subtropical Desert: Indus Valley and the Thar (Great Indian) Desert.

FLORA AND FAUNA

Forests

India experiences rainfall due to the advance south west monsoon and the retreating monsoon (June to September). Areas having more rainfall have dense vegetation than the areas getting less rainfall. Forests play a major role to boost up the quality of environment. The contribution of this renewable resource is as follows:

- Modification of local climate
- Controlling of soil erosion
- Regulating the stream flow
- Supporting a variety of industries
- Providing livelihood for many communities
- Offering panoramic or scenic view for recreation
- Controlling wind force and temperature resulting in rainfall
- Providing humus to soil and shelter to wildlife

The factors like the growing demand for cultivated land, development of the industries and mining, urbanisation and over grazing are responsible for diminishing natural vegetation of India. Due to the human activity the vegetation of the country is no longer the same except in some hilly regions like central India and Marusthali and the Himalayas. Nearly 22.8 percent of India's total area is covered by the evergreen forests, constituting 2 percent of the world's forest area. The forests in India are divided into eight distinct floristic regions, such as:

- Western Himalayas (Extending from Kashmir to Arunachal Pradesh cutting through Nepal, Sikkim, Bhutan, Meghalaya, Nagaland and the Deccan Peninsula).
- Eastern Himalayas (Extending from Sikkim eastwards and Covering Darjeeling, Kurseong).
- Assam (Brahmaputra and the Surma Valleys).
- Indus Plain (Plains of Punjab, western Rajasthan and northern Gujarat).
- Ganga plain (a small area consisting of differing types of flora).
- Deccan plateau area.

Malabar (Humid belt of the mountain country to the west coast of the peninsula).

- Middle India (Vindhya, Chhotanagpur and Satpura mountain range area).

Types of Vegetation

Our country has the following major types of vegetations

- Tropical rain forests
- Tropical deciduous forests
- Tropical thorn forests and scrubs
- Mountain forests
- Mangrove forests

Tropical rain Forests

These forests are present in the areas which receive heavy rainfall i.e. 200 cm with a short dry season. The trees acquire the height of up to 60 m or even higher. This warm and wet region has the evergreen forests with a variety of vegetation such as trees, shrubs and creepers.

Some trees of commercial importance of this forest are ebony, mahogany, rosewood, rubber and cinchona. The animals found in this region are elephants, lemurs, monkeys and deer. One horned rhinoceros are found on the jungles of Assam and West Bengal. Also a lot of bats, birds, sloths scorpions and snails are found in this jungle.

Tropical Deciduous Forests

They are also known as the Monsoon Forests and cover the maximum area in the country. They are usually present in the area receiving the rainfall between 200 cm and 70 cm. The trees in these forests shed their leaves for six to eight weeks in dry summer. They are further divided into moist and dry deciduous forests on the basis of availability of water. The moist deciduous forests are found in the eastern region of the country, more precisely in the north-eastern states, along the foothills of Himalayas and Jharkhand, west Odisha and Chattisgarh and on the eastern slopes of the Western Ghats. They exist in the areas with rainfall between 200 to 100 cm. Here Teak is the most dominant species and others are Bamboo, Sal, Teak, Sandalwood and Mulberry.

The dry deciduous forests are found in the rainier areas of the peninsular plateau and the plains of Bihar and Madhya Pradesh with the dominating trees species of Teak, Sal, Peepal and Neem. They are found in the areas having rainfall between 100 cm to 70 cm. The animals found in these forests are lion, tiger, deer, and elephant. Lot of birds and variety of reptiles like lizards, snakes and tortoise is also found.

Tropical Thorn Forests and Scrubs

This type of forest is present in the north- western part of the country including semi- arid areas of Gujarat, Rajasthan, Madhya Pradesh, Chattisgarh, Uttar Pradesh and Haryana. They exist in the region with rainfall less than 70 cm and consist of trees like Acacia, Palms, Euphorbias and Cacti. The trees have long penetrating roots to get moisture. Animals in these areas are rats, mice, rabbits, fox, wolf, tiger, lion, wild ass, horses and camels.

Mountain Forests

This includes the wet temperate type of forest with evergreen broad leaf trees such as oak and chestnuts. They are found in region of 1000 to 2000 m. The temperate forests containing coniferous trees like pine, deodar, silver fir and cedar are found in the area between 1500 m and 3000 m. These forests are found in the southern slopes of Himalayas and places with high altitude in southern and north- east India. The Alpine vegetation is present in the areas having an elevation of 3600 m above the sea level containing trees like silver fir, junipers, pines and birches. These are used for the grazing by nomadic tribes like Gujjars and Bakarwals. The animals found in this region are Kashmir stag, spotted deer, wild sheep, jack rabbit, snow leopard, red panda, sheep and goats with thick hair.

Mangrove Forests

The Mangrove forests are found in the coastal areas with their roots submerged under water. They can be found in the deltas of Ganga, Mahanadi, Krishna, Godavari and Kaveri. Ganga-Brahmaputra delta has the Sundari trees known for its hard timber. Other than this, palm, coconut, keora and agar also grow. Royal Bengal tigers, snakes, Ghadiyals and crocodiles are found in these forests.

Wildlife

India constitutes of 13% of the world's total fauna with 89000 species of animals, 1200 of birds and 2500 species of fish. It also contributes to the 5 to 8 % of the world's amphibians, reptiles and mammals. The animals range from the elephants to the one-horned rhinoceroses.

The arid areas are habitat for the wild ass and the camels. Other animals are Indian bison, nilgai, chousingha, gazel and monkeys. India is the only country having both tigers and lions in the Sudarbans and the Gir forests respectively. Ladakh is the home for the yak, shaggy horned wild horse, Tibetan antelope ibex, bear, snow leopard and the red panda. India has also a good variety of crocodiles and turtles in its water. Birds like peacocks, pigeons, parakeets, cranes and ducks are also found.

To protect the flora and fauna of the country the government has taken the following steps:

- They have set up 18 biosphere reserves in the country
- They provide financial and technical assistance to botanical gardens since 1992.
- They have introduced project tiger, project rhino, project great Indian Bustard and many other
- 89 national parks, 49 wildlife sanctuaries and zoological garden are set up.

Mineral Resources

Fairly rich in minerals India has large reserves of iron ore, coal, manganese, copper and mica. The valleys of the river Damodar in West Bengal and Jharkhand, the valley of the river Mahanadi in Chhattisgarh, Madhya Pradesh and Odisha and the Godavari basin in Maharashtra and Andhra Pradesh, contain practically the entire mineral wealth of the country. The significant mineral deposits outside this area are petroleum, copper and gold. Gold, silver and diamonds make up a small part of other natural resources available in India. Major portion of the energy in India is generated from coal, and the eastern and central region of the country has the highest reserve of coal. Huge reserves of petroleum have been found off the coast of Maharashtra and Gujarat.

Electrical energy is generated by hydroelectric power, coal and nuclear energy. In villages around India, people use wood or dried cow-dung cakes as fuel for cooking and heating water. The demand for firewood and the increasing population is affecting the existing forests.

Flora and Fauna

Another natural resource is forest resource. Forestry is a primary activity and depends for the development to a great extent on the physical environmental conditions. Timber and firewood are called major forest products while the rest are minor forest products. Timber producing forests grow mainly in areas of ample precipitation and the major species of such trees in India are teak, sal, shisham, deodar and pine. The sandal wood tree, a valuable species, grows in Karnataka. Bamboo, gum and the leaves of some trees are important forest products. Which are used in many purposes. Kattha and Lac (sealing wax) are also obtained from the forests of Madhya Pradesh, Uttar Pradesh and Bihar.

Natural resources hold a lot of significance for tourism development. For example, ecotourism is nature based and emphasizes on conservation of resource. The north east India is recognized as a region uniquely rich in biodiversity. This region has environmental diversities for its tropical locations, varied physical features and climatic types. These include sanctuaries, lakes and rivers, adventure spots etc and these offer enormous opportunities for development of eco tourism.

Vegetation

The main vegetation regions of India are the following:

- **Broadleaf deciduous:** Extensive area in northwestern India and Pakistan. Shrubs can grow to a maximum of one meter (three feet) singly or in groups.

Broadleaf deciduous: Same as above except trees grow to a minimum of one meter singly or in groups. It surrounds the area above.

- **Broadleaf deciduous (terai):** An extensive area from the Gangetic Plains to southern India. Terai Lowlands in Nepal.
- **Broadleaf evergreen:** Malabar Coast, Coromandel Coast and Sri Lanka.
- **Semi-deciduous: broadleaf evergreen and broadleaf deciduous:** They are found in an area inward from the Malabar Coast and the lower valley of the Ganges.
- **Broadleaf deciduous** trees. Bihar and Orissa. **Broadleaf evergreen**, shrub form, minimum height one meter (3 feet).