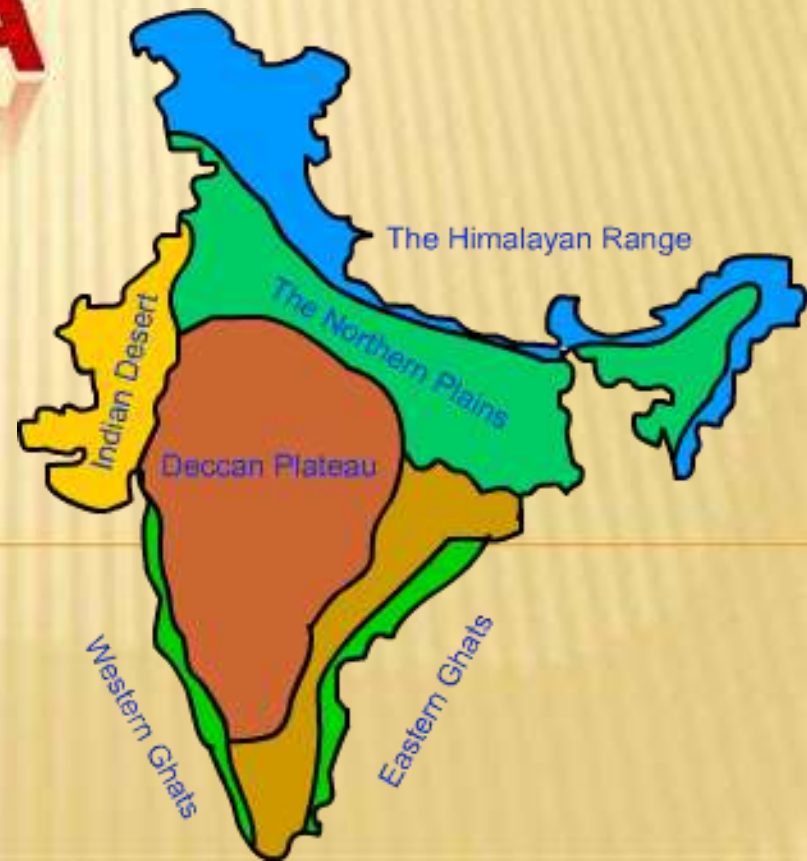


PHYSICAL FEATURES OF INDIA



The major physiographic divisions of India

Geographically India can be divided into five major divisions

- 1 The Peninsular Plateau region
- 2 The Northern Mountainous region
- 3 The North Indian Plain region
- 4 The Coastal Plain region
- 5 The Indian Islands

Indian Deserts



India is a vast country with varied landforms. Our country has practically all major physical features of the earth i.e. mountains, plains, deserts, plateaus and islands. India is a large landmass formed during different geological periods which has influenced her relief. Besides geological formations, a number of processes such as weathering, erosion and deposition have created and modified the relief its present form.



CAUSES OF PLATE MOVEMENT

Plates at our planet's surface move because of the intense heat in the Earth's core that causes molten rock in the mantle layer to move. It moves in a pattern called a convection cell that forms when warm material rises, cools, and eventually sink down. As the cooled material sinks down, it is warmed and rises again.

The movement of the plates results in the building up of stresses within the plates and the continental rocks above, leading to folding, faulting and volcanic activity.



Tectonic Plate Theory:-

The tectonic plate theory describes the large scale motion of the earth's lithosphere. This theory is based on continental drift which explains the formation of various

continents over millions of years

Plate Boundaries:-

Based on the relative movement between two tectonic plates, there are three types of plate boundaries.



They are as follows:

Convergent Boundary: In this case, the two adjacent tectonic plates move towards each other.

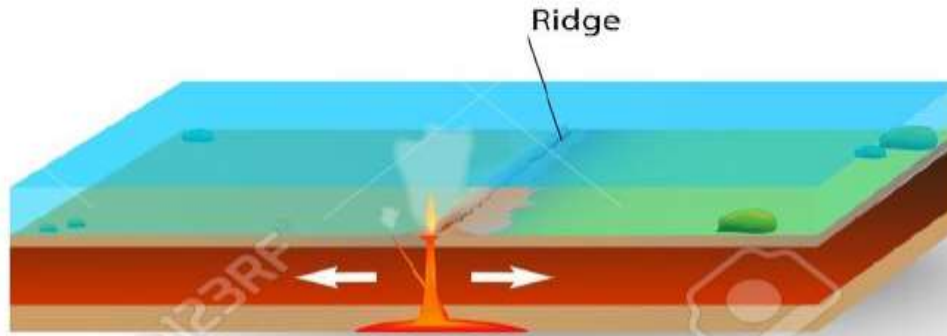
Divergent Boundary: In this case, the two adjacent plates move away from each other.

Transform Boundary: In this case, the two adjacent plates move along their borders

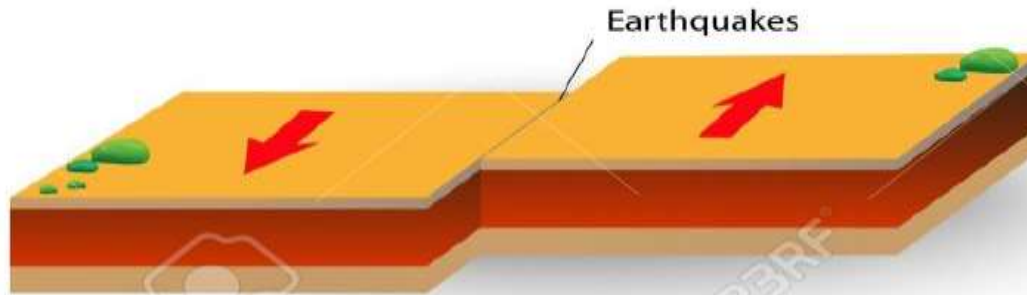


THREE TYPES OF PLATE BOUNDARY

Divergent
plate
boundary



Transform
plate
boundary

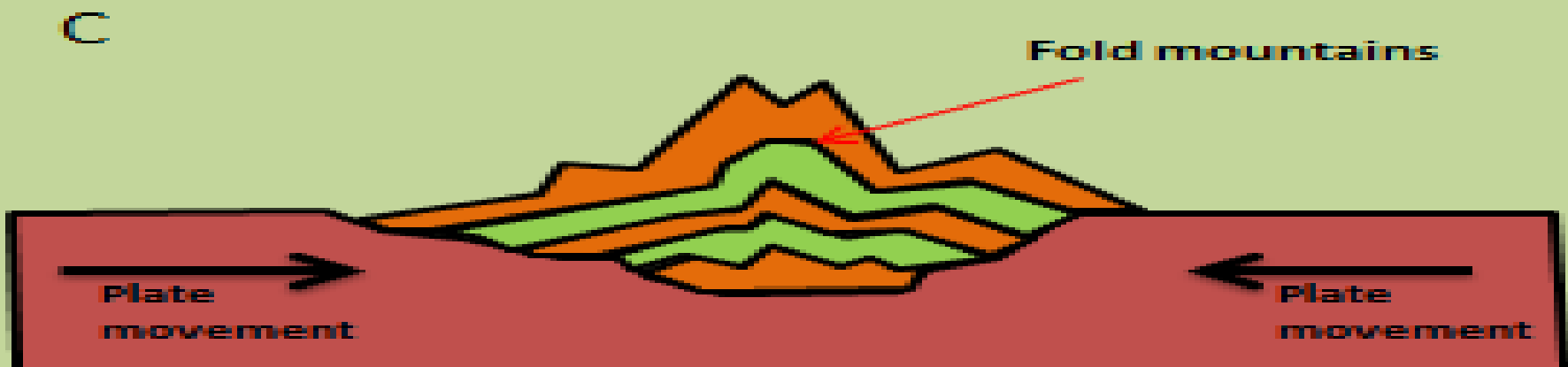
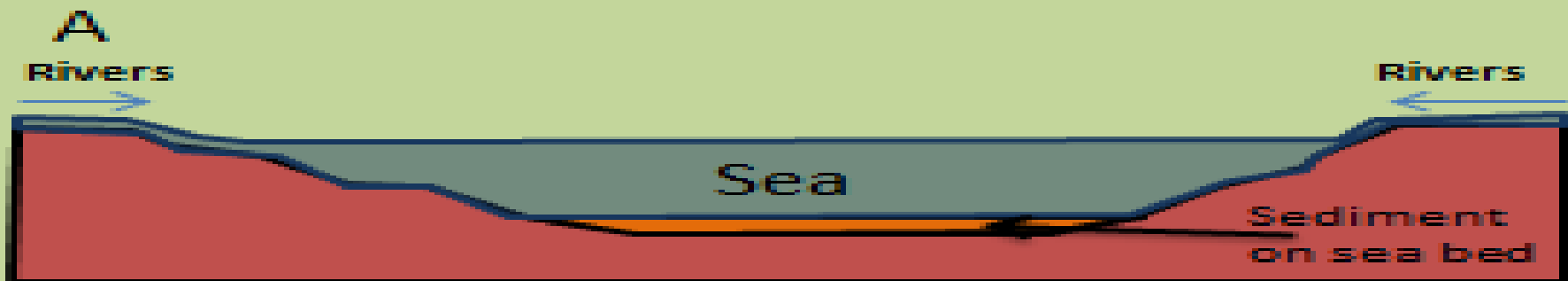


Convergent
plate
boundary



There are many hypothesis regarding the origin of Himalaya, however there is almost a complete unanimity that the Himalayan mountains have come out of a great geosyncline called the Tethys Sea. About 120 million years ago, there were only two big continents in the world- in the north was Laurasia or Angaraland and in the southern hemisphere was Gondwanaland. In between Laurasia and Gondwanaland, there was a long, narrow and shallow sea called Tethys Sea. Sediments were brought by the rivers from these landmasses and deposited in the bed of the sea. These sediments were subjected to the powerful compression force from both the continents, this compression squeezed and crushed the sediments of Tethys and series of folds were formed one behind the other giving rise to the highest relief features on the earth - the Himalayas. The curved shape of the Himalayas convex to the south, is attributed to the maximum push offered at two ends of the Indian peninsula during its northward drift. In the northwest it was done by the Aravalis and in the northeast by the Assam Ranges. Recent studies shows that India is moving northward at the rate of about 5 cm per year and crashing into rest of the Asia, buckling the Himalayas between Angaraland and Gondwanaland. This drift is providing instability to the Himalayan region.





The formation of fold mountains

THE HIMALAYAN MOUNTAINS

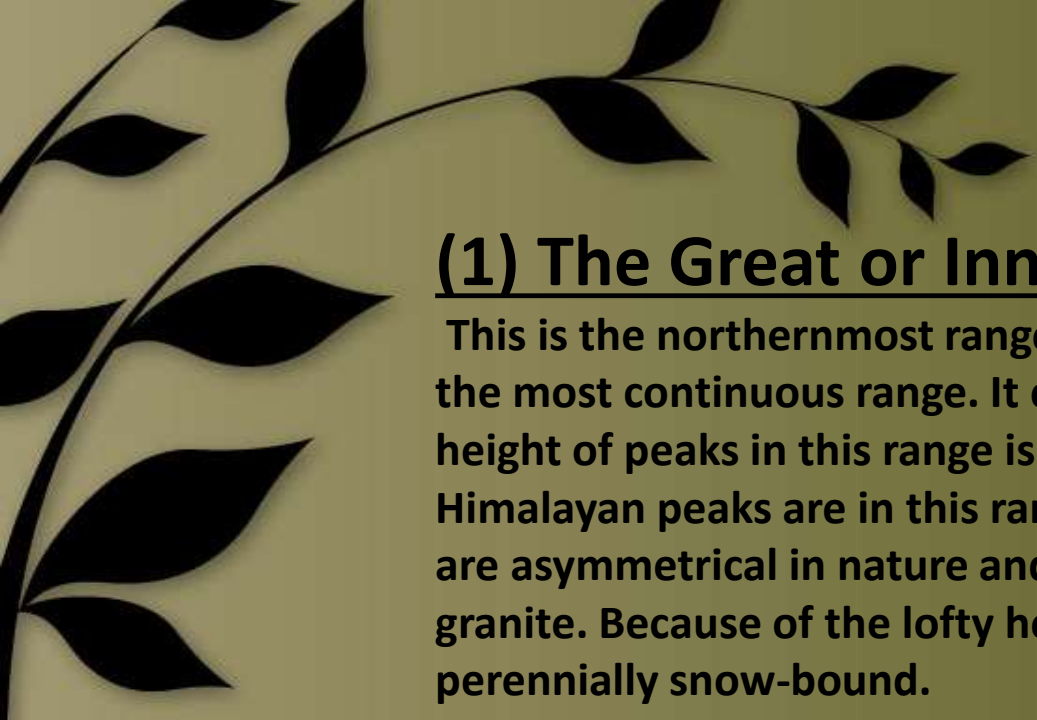


The Himalayas are the youngest mountains in the world and are; structurally; the folded mountains. The Himalayas run along the northern border of India. The Himalayas form an arc which is about 2,400 km long. The width varies from 400 km in Kashmir to 150 km in Arunachal Pradesh. The altitudinal variations are greater in the eastern part than in the western part. There are three parallel ranges in its longitudinal extent.



Some Highest Peaks of the Himalayas

Peak Name	Height in Meters
Everest	8848
K2	8611
Kangchenjunga	8586
Lhotse	8516
Makalu	8462
Cho Oyu	8201
Dhaulagiri	8167
Manaslu	8156
Nanga Parbat	8126

A decorative graphic of a dark green leafy branch with several leaves, positioned in the upper left corner of the page.

(1) The Great or Inner Himalayas:-

This is the northernmost range and is also known as 'Himadri'. This is the most continuous range. It contains the loftiest peaks. The average height of peaks in this range is 6,000 meters . All the prominent Himalayan peaks are in this range. The folds of the Great Himalayas are asymmetrical in nature and the core of this part is composed of granite. Because of the lofty heights, the peaks of this range are perennially snow-bound.

(2) The Lesser Himalaya or Himachal:

This lies towards the south of the Great Himalayas. The altitude of peaks in this range varies from 3,700 m to 4,500 m. Average width of this range is 50 km. This range is mainly composed of highly compressed and altered rocks.

(3) The Shiwaliks:-

This is the outermost range of the Himalayas. The altitude varies between 900 and 1100 m in this range and the width varies between 10 to 50 km. These ranges are composed of unconsolidated sediments. The longitudinal valleys lying between the Himachal and Shiwaliks are called 'Dun'.

Himalayan Regions from East to West:

Punjab Himalayas:- This part lies between the Indus and Sutlej. From west to east, this is also known as Kashmir Himalaya and Himachal Himalaya; respectively.

Kumaon Himalayas: This part lies between Sutlej and Kali rivers.

Nepal Himalayas: This part lies between the Kali and Tista rivers.

Assam Himalayas: This part lies between the Tista and Dihang rivers.

Eastern hills and mountains: The Brahmaputra marks the eastern border of the Himalayas. Beyond the Dihang gorge, the Himalayas bend sharply towards south and form the Eastern hills or Purvachal. These hills run through the north eastern states of India. They are mostly composed of sandstones. These hills are composed of the Patkai Hills, Naga Hills, Manipuri Hills and Mizo Hills.

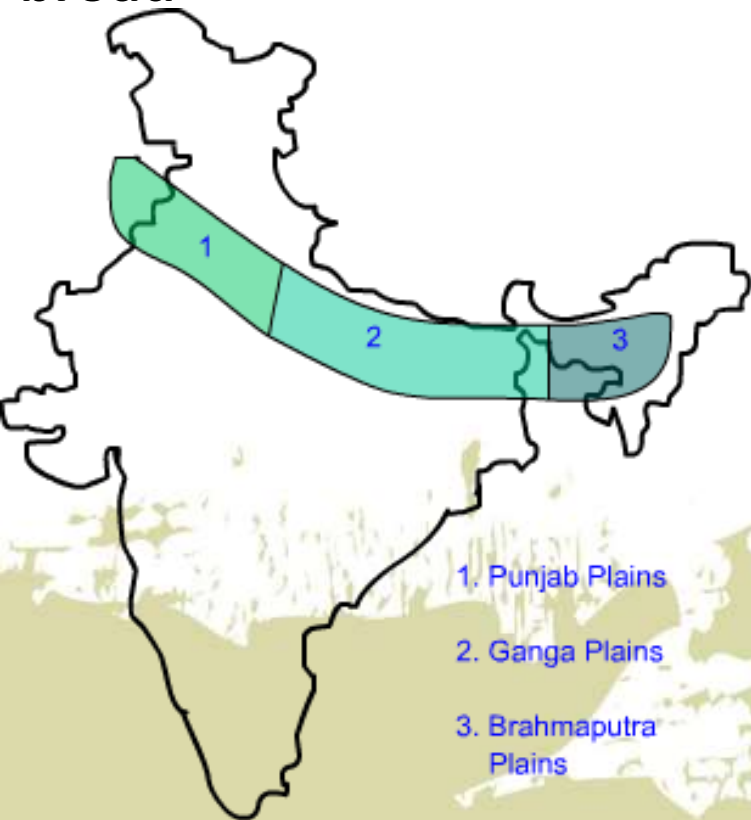


THE NORTHERN PLAINS OF INDIA



The Northern Plain

The northern plain of India is formed by three river systems, viz. the Indus, the Ganga and the Brahmaputra; along with their tributaries. This plain is composed of alluvial soil which has been deposited over millions of years. The total area of the northern plain is about 7 lakh square kilometer. It is about 2400 km long and about 240 to 320 km broad



The northern plain is divided into three sections, viz. the Punjab Plain, the Ganga Plain and the Brahmaputra Plain.

Punjab Plains: The Punjab plains form the western part of the northern plain. This is formed by the Indus and its tributaries; like Jhelum, Chenab, Ravi, Beas and Sutlej. A major portion of this plains is in Pakistan. Doabs abound in this plain.

Ganga Plains: This plain extends between Ghaggar and Tista rivers. The northern states, Haryana, Delhi, UP, Bihar, part of Jharkhand and West Bengal lie in the Ganga plains.

Brahmaputra Plains: This plain forms the eastern part of the northern plain and lies in Assam.

Based on the relief features; the northern plain can be divided into four regions, viz. bhabar, terai, bhangar and khadar.

Bhabar: After descending from the mountains, the rivers deposit pebbles in a narrow belt. The width of this belt is about 8 to 16 km and it lies parallel to the Shiwaliks. This region is known as bhabar. All the streams disappear in this region.

Terai: The terai region lies towards south of the bhabar belt. In this region, the streams reappear and make a wet, swampy and marshy region.

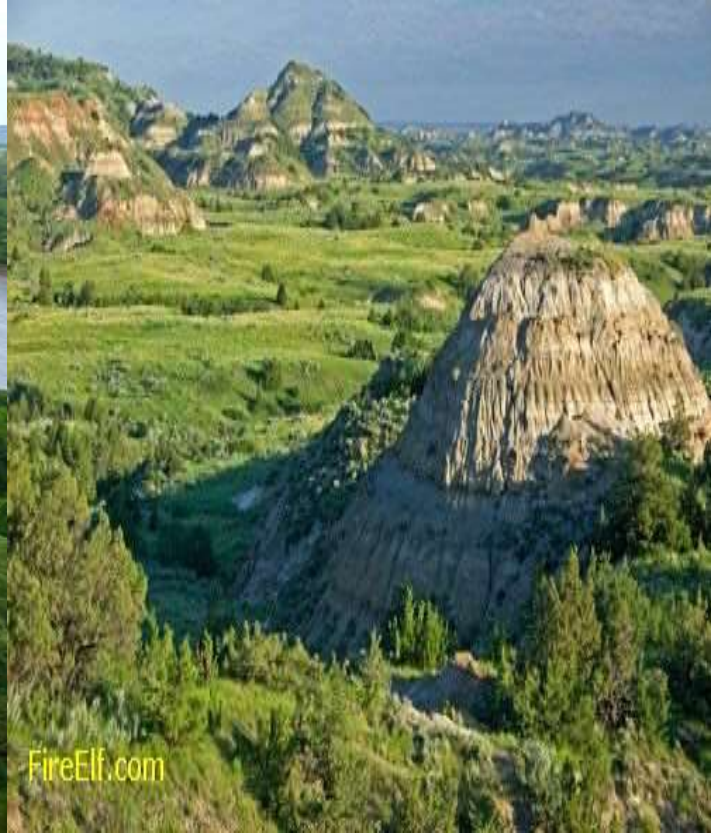
Bhangar: Bhangar is the largest part of the northern plain and is composed of the oldest alluvial soil. They lie above the flood plains. They resemble terraces. The soil of this region is locally known as kanka and is composed of calcareous deposits.

Khadar: The floodplains formed by younger alluvium are called khadar. The soil in this region is renewed every year and is thus highly fertile.



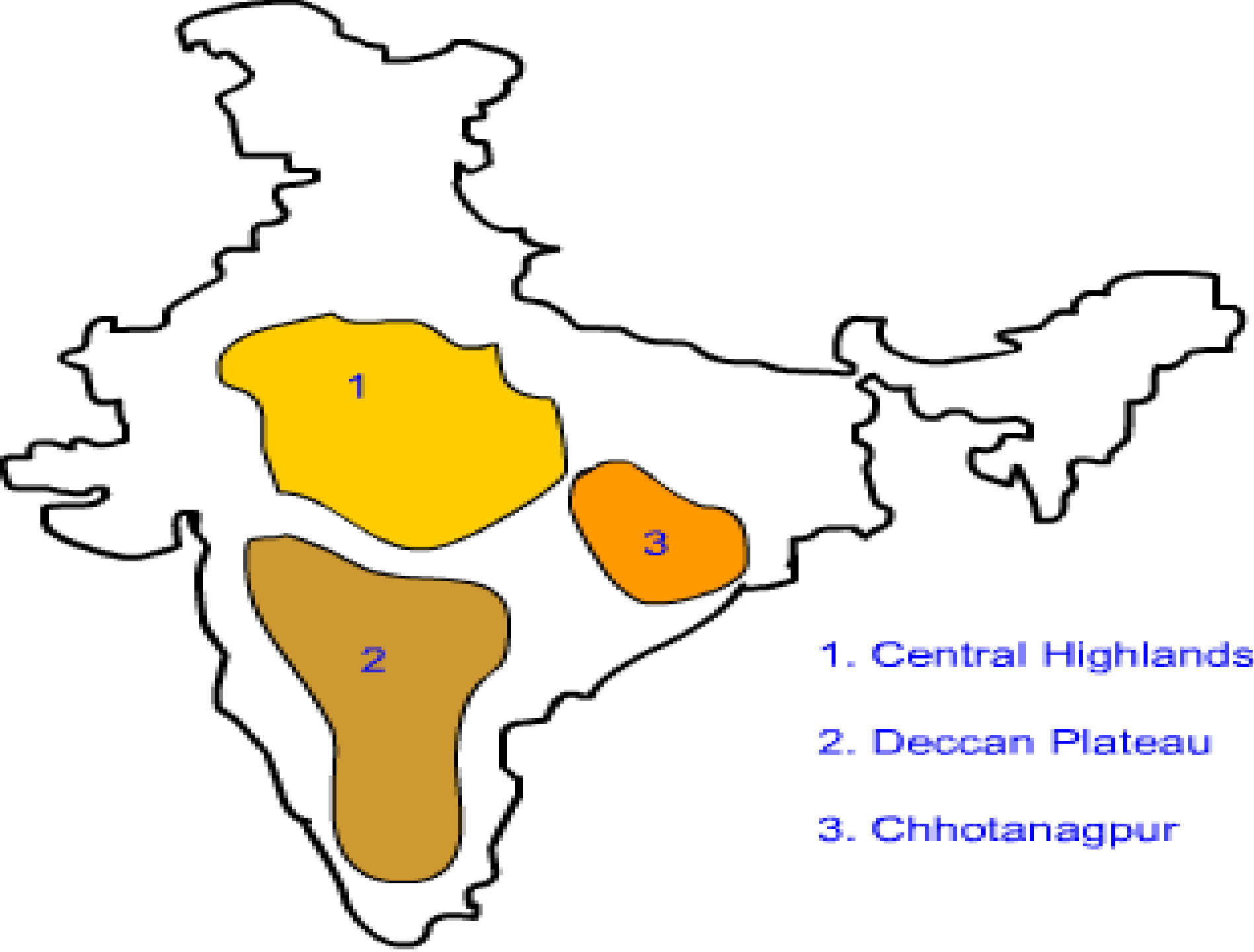


THE NORTHERN PLAINS OF INDIA



THE PENINSULAR PLATEAU





1. Central Highlands

2. Deccan Plateau

3. Chhotanagpur



The Peninsular Plateau

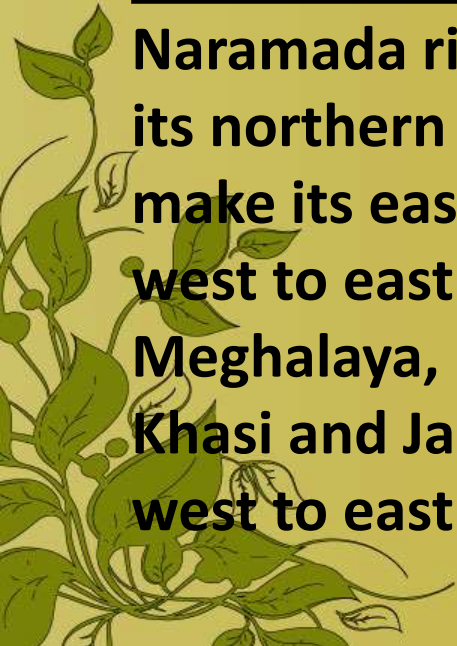
The peninsular plateau is a tableland. It is composed of the oldest rocks because it was formed from the drifted part of the Gondwana land. Broad and shallow valleys and rounded hills are the characteristic features of this plateau.



The plateau can be broadly divided into two regions, viz. the Central Highlands and the Deccan Plateau.

The Central Highlands: The Central Highlands lies to the north of the Narmada river. It covers the major portion of the Malwa plateau. The rivers in this region flow from southwest to northeast; which indicates the slope of this region. It is wider in the west and narrower in the east. Bundelkhand and Baghelkhand mark the eastward extension of this plateau. The plateau further extends eastwards into the Chhotanagpur plateau.

The Deccan Plateau:- The Deccan Plateau lies to the south of the Naramada river. It is triangular in shape. The Satpura range makes its northern part. The Mahadev, Kaimur Hills and Maikal range make its eastern part. The slope of the Deccan Plateau is from west to east. It extends into the north east which encompasses Meghalaya, Karbi-Anglong Plateau and North Cachar Hills. Garo, Khasi and Jaintia hills are the prominent ranges; starting from west to east.



The Western and the Eastern Ghats:-

They make the western and eastern edges of the Deccan Plateau. The average elevation of Western Ghats is 900 – 1600 metres; compared to 600 metres in case of Eastern Ghats. The Eastern Ghats stretch from Mahanadi Valley to the Nilgiris in the south. The Western Ghats cause oceanographic rains as they face the rain-laden winds from west.



**THE
INDIAN
DESERT**

THE THAR DESERT



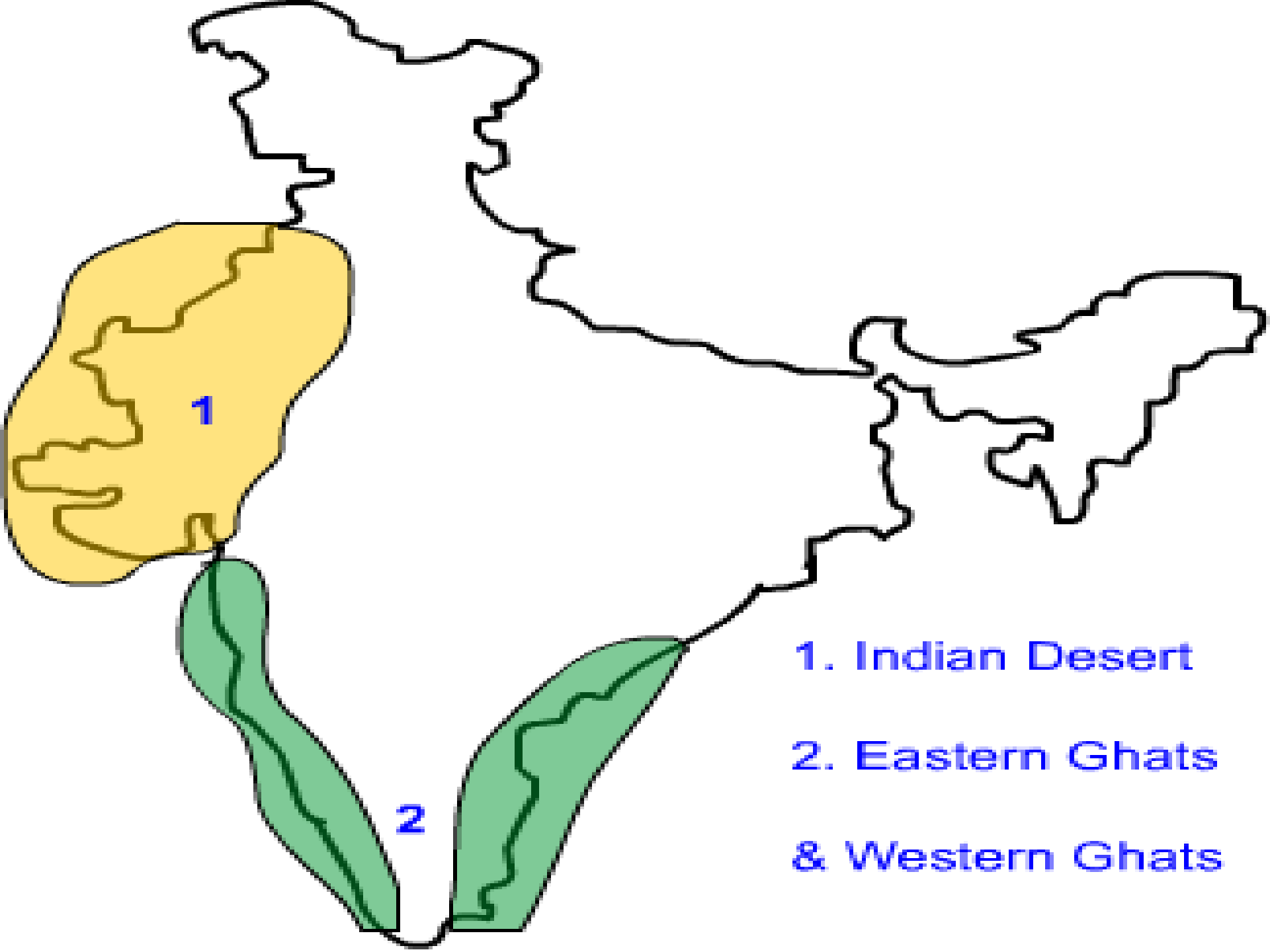
THE INDIAN DESERT

- The Great Indian Desert (also known as the Thar Desert), is a large, arid region in the northwestern part of the Indian subcontinent.
- With an area of more than 200,000 sq.km.
- It is the world's 9th largest subtropical desert.



The Indian Desert:-

The Indian desert lies towards the western margins of the Aravali Hills. This region gets scanty rainfall which is less than 150 mm in a year. Hence they climate is arid and vegetation is scanty. Luni is the only large river but some streams appear during rainy season. Crescent-shaped dunes (barchans) abound in this area.

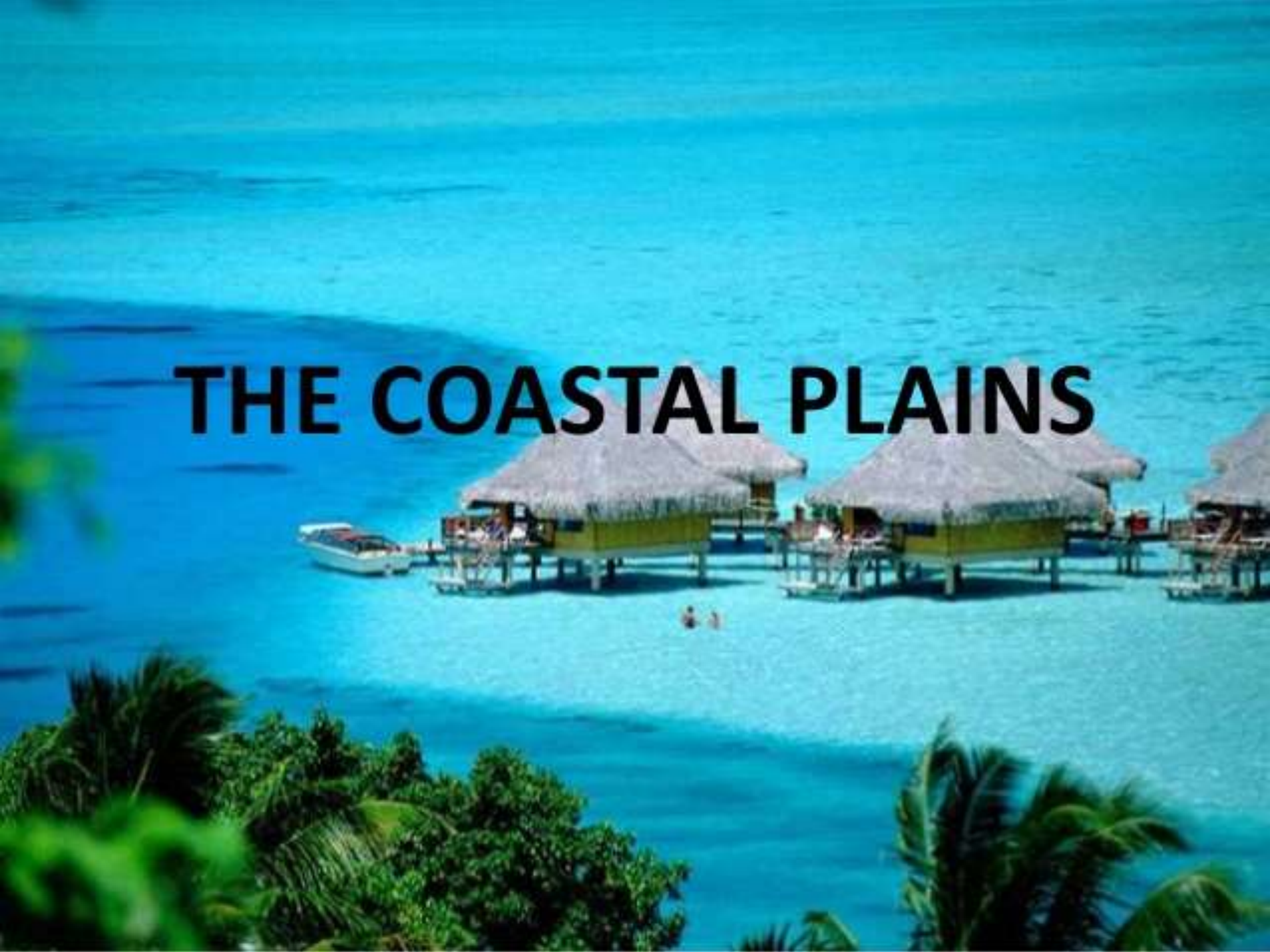


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2

- 1. Indian Desert
- 2. Eastern Ghats & Western Ghats

THE COASTAL PLAINS



The Coastal Plains

The Peninsular plateau is flanked by stretch of narrow coastal strips. They run along the Arabian Sea on the west and along the Bay of Bengal on the east. The western coast lies between the Western Ghats and the Arabian Sea. It is divided into three sections. The Konkan; which comprises of Mumbai and Goa makes the northern part. The Kannada Plain makes the central part and the Malabar coast makes the Malabara coast.

The western coastal plain is wider and level and it runs along the Bay of Bengal. It is divided into two parts. The northern part is called Northern Circar. The southern part is called the Coromandel Coast. Extensive deltas are formed by large rivers like Mahanadi, Godavari and Kavery. Chilika lake is an important feature along the eastern coast



THE COASTAL PLAINS





THE ISLAND GROUPS OF INDIA

THE ISLANDS

An island is any piece of sub-continental land that surrounded by water.



The Islands

The Lakshadweep Islands are in the Arabian Sea. Its area is 32 sq km. The administrative headquarters of Lakshadweep is at Kavaratti island. This group of islands is rich in terms of biodiversity.

The Andaman and Nicobar Islands are bigger in size and has more number of islands. This group of islands can be divided into two groups. The Andaman is in the north and the Nicobar is in the south. These islands too have rich biodiversity.



Andaman & Nicobar Islands

- These island groups are of great economic and strategic importance for the country.
 - Tourism potential.
 - Security.
 - Trade.
 - Migration.
 - Arms smuggling.
 - Smuggling of all natural resources
 - Control on Indian Ocean.



Lakshadweep Islands

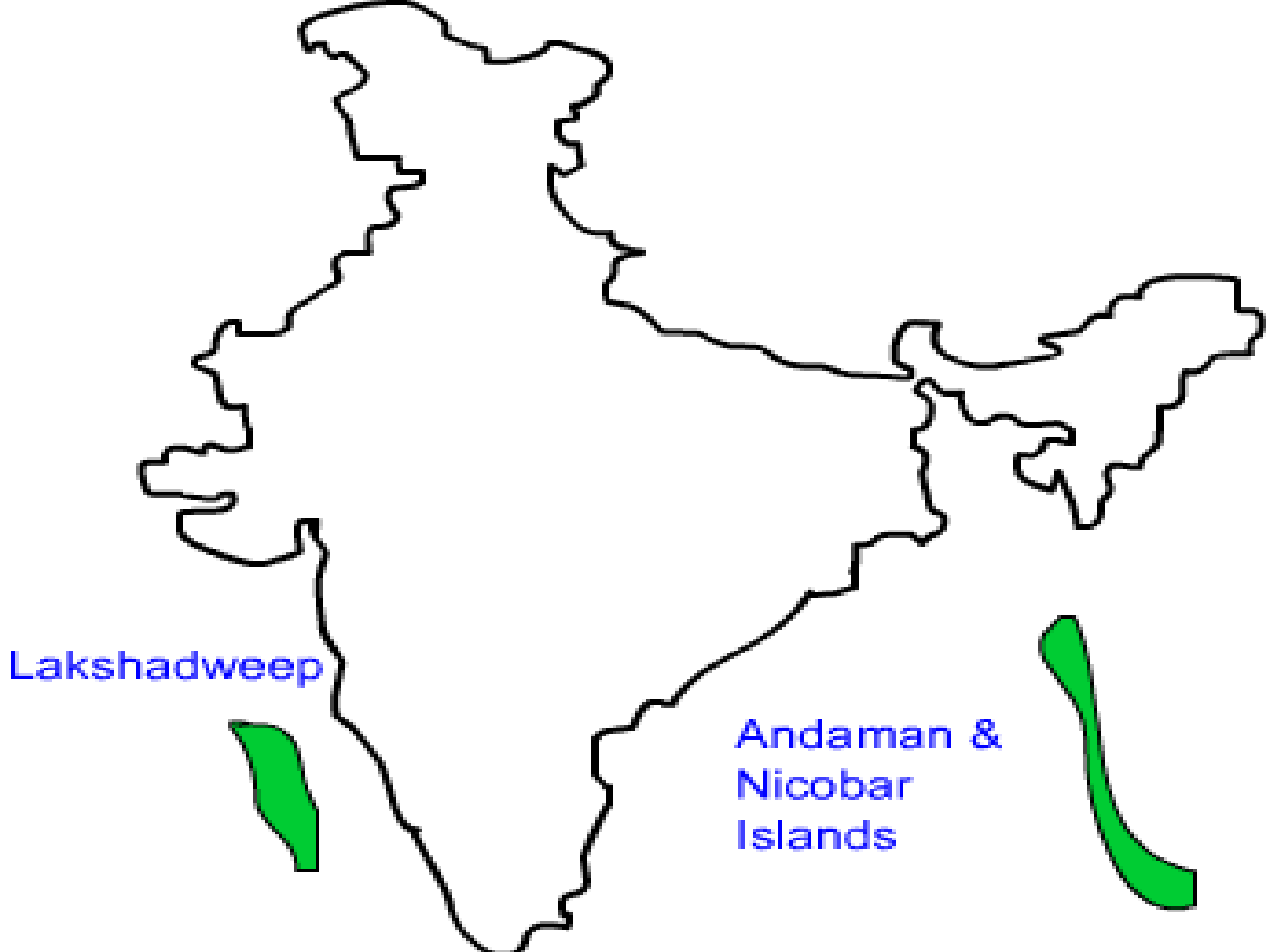
- There are 36 coral islands that constitute Lakshadweep islands, only 10 are inhabited and only six have been opened for tourism.
- Their total land area is 32 km².
- These islands, formed of coral deposits, are called **atolls**. **Atolls are circular or horse shoe shaped coral reefs.**



Lakshadweep Islands

- Karavatti is the administrative headquarters of Lakshadweep Islands.
- This island group has great diversity of flora and fauna.





Lakshadweep

Andaman &
Nicobar
Islands



THANK
YOU

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