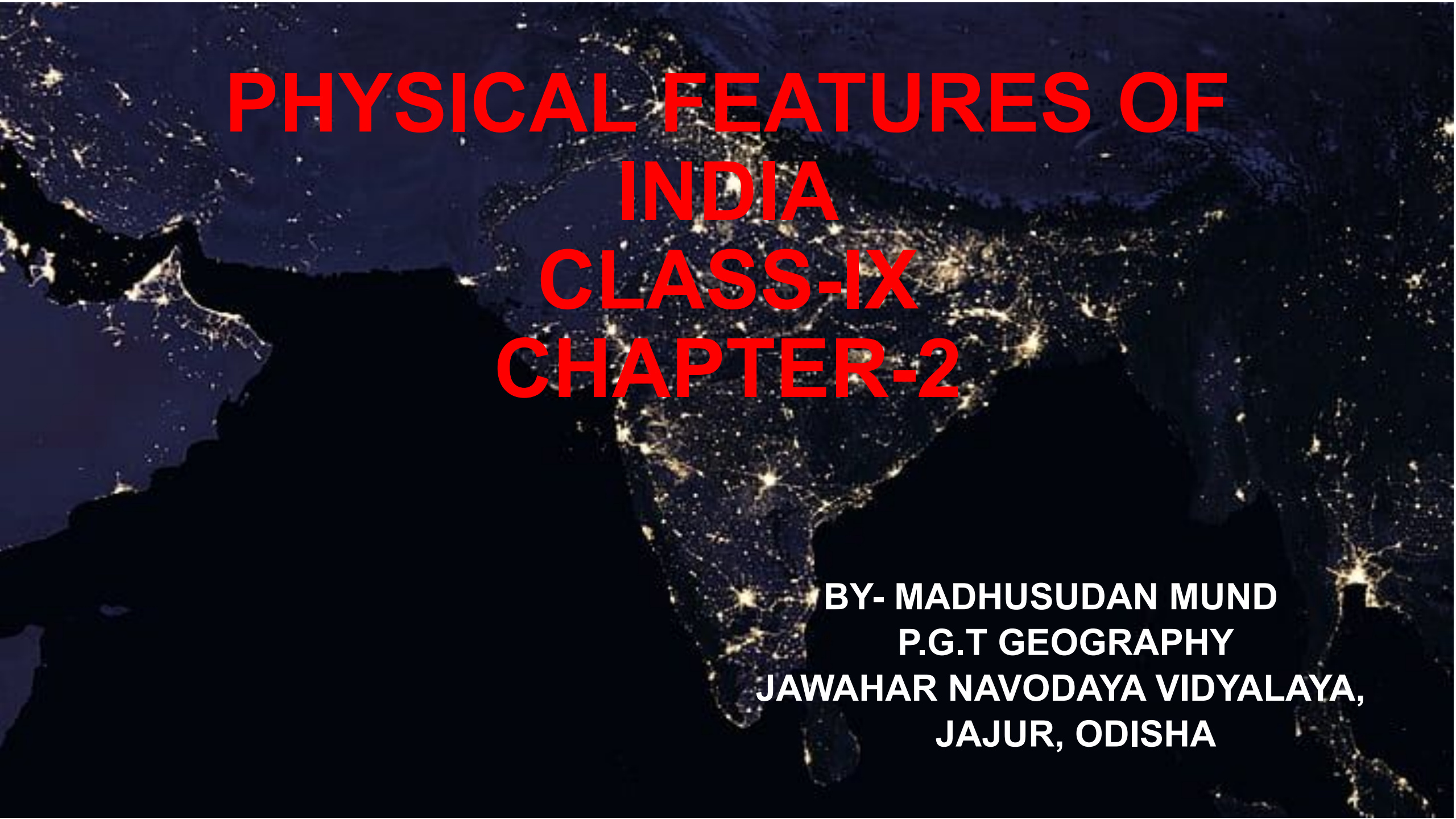


PHYSICAL FEATURES OF INDIA
CLASS-IX
CHAPTER-2

BY- MADHUSUDAN MUND
P.G.T GEOGRAPHY
JAWAHAR NAVODAYA VIDYALAYA,
JAJUR, ODISHA

INTRODUCTION

- The present physical form of India is a result of vast geological formation.
- Stratigraphy, geological structure, and physiography are different.
- Indian Peninsula is a part of global Gondwana shifted northward and striking with central Asiatic plate forming high mountain out of Tethys sea.
- Rich in different physiographic units complements each other such as :
  - = **Mountains** : the source of water and forest
  - = **Nothern Plain** : granaries of the country
  - = **Plateau** : a storehouse of minerals
  - = **Coast**: fishing and port activities

OBJECTIVE

- To make familiar with various physical features of India
- To draw out the comparative study of various regional linkage
- To learn about continents and mountain building procedure in combination with agents of erosion
- To develop map work skill and appreciate nature and its scenic beauty

MAJOR PHYSIOGRAPHIC DIVISIONS OF INDIA

India consist of three major landforms grouped into seven physiographic unit:

A) The Himalayan mountain

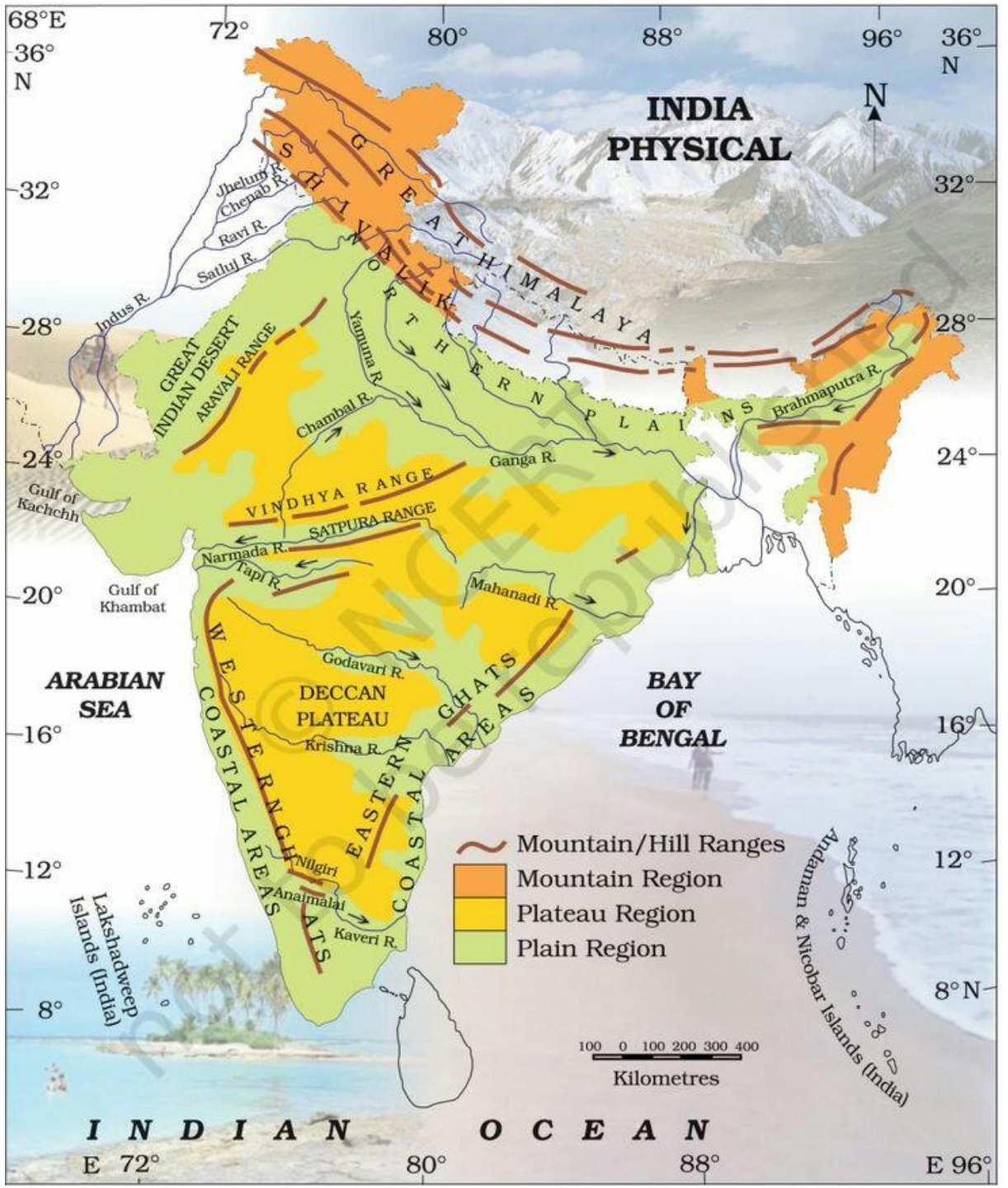
1. Nothern mountains

B) The Indo-Gangetic plain

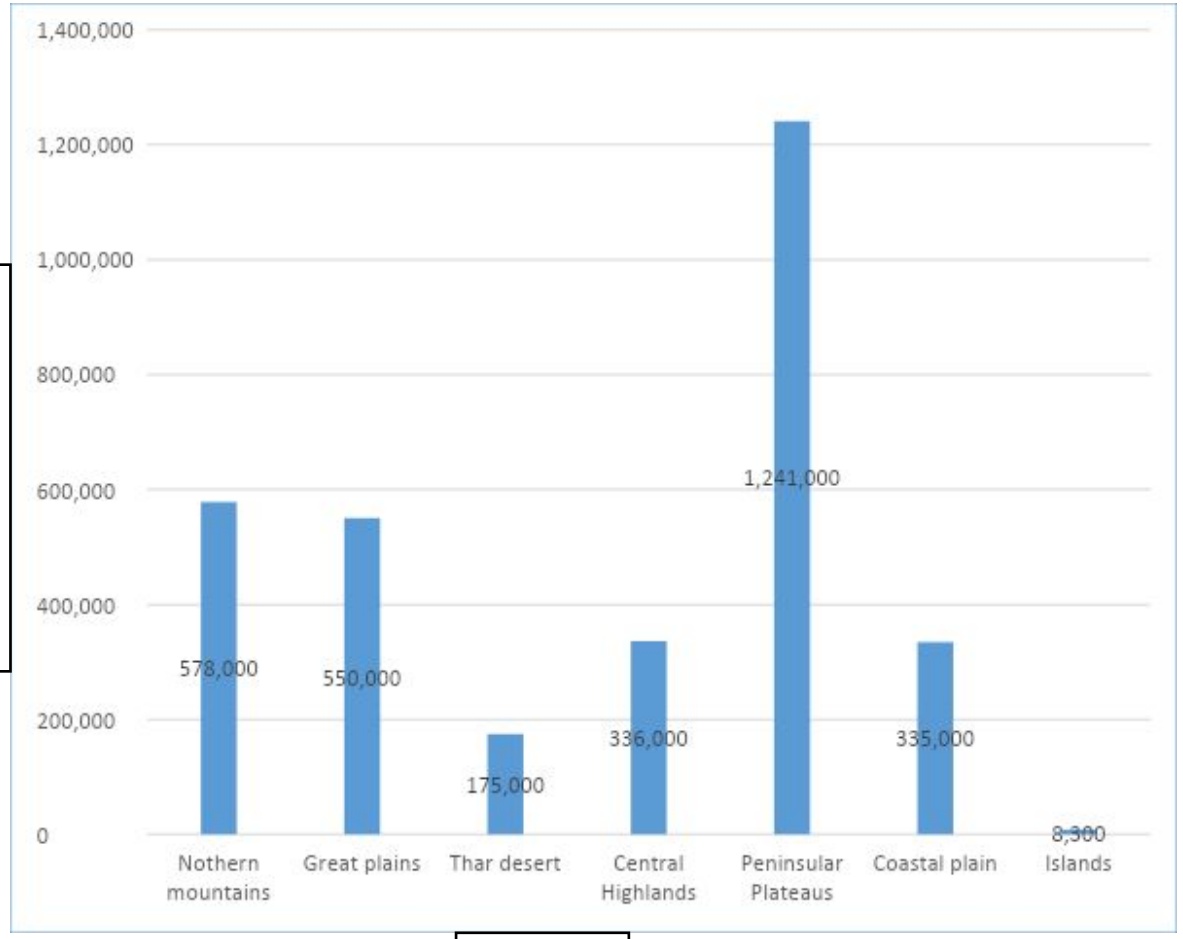
2. Great plains
3. Thar desert

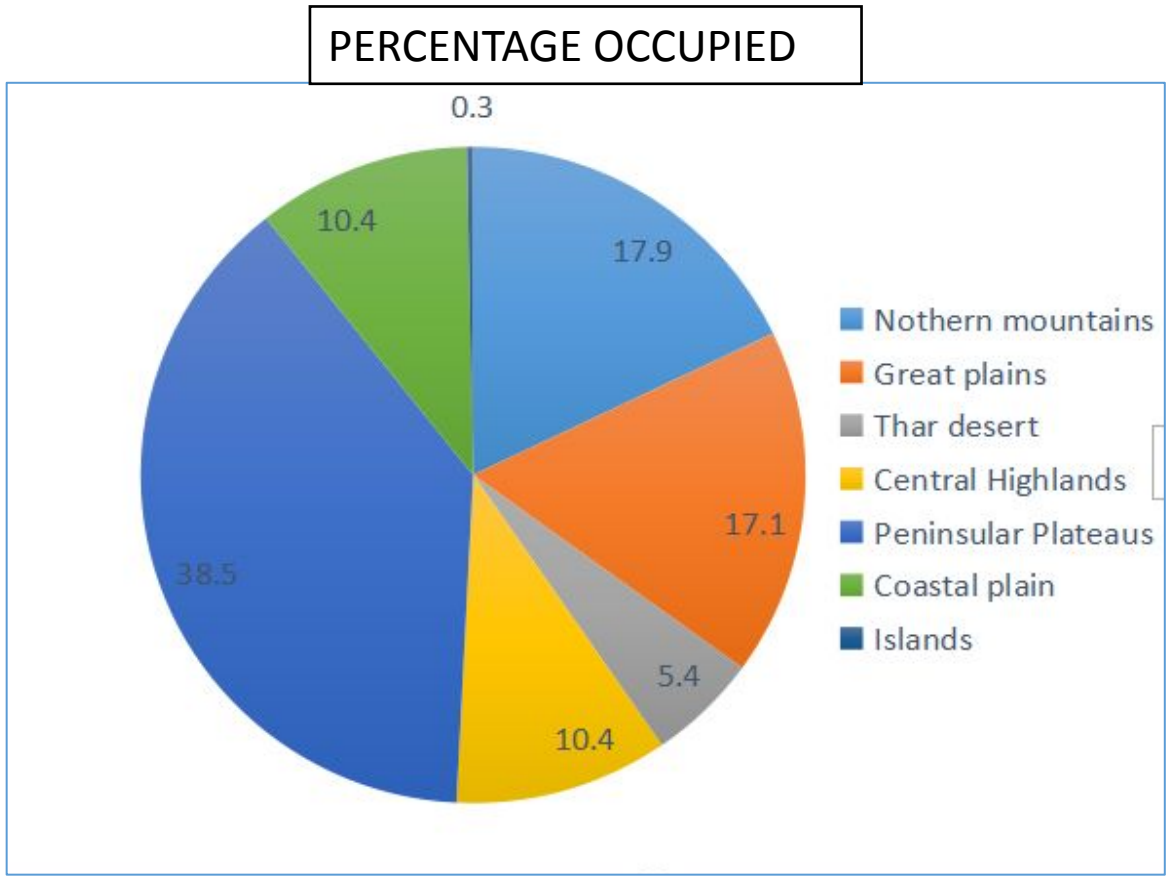
C) Peninsular Plateau

4. Central Highlands
5. Peninsular Plateaus
6. Coastal plain
7. Islands



Area occupied and %age of Physical Units of India

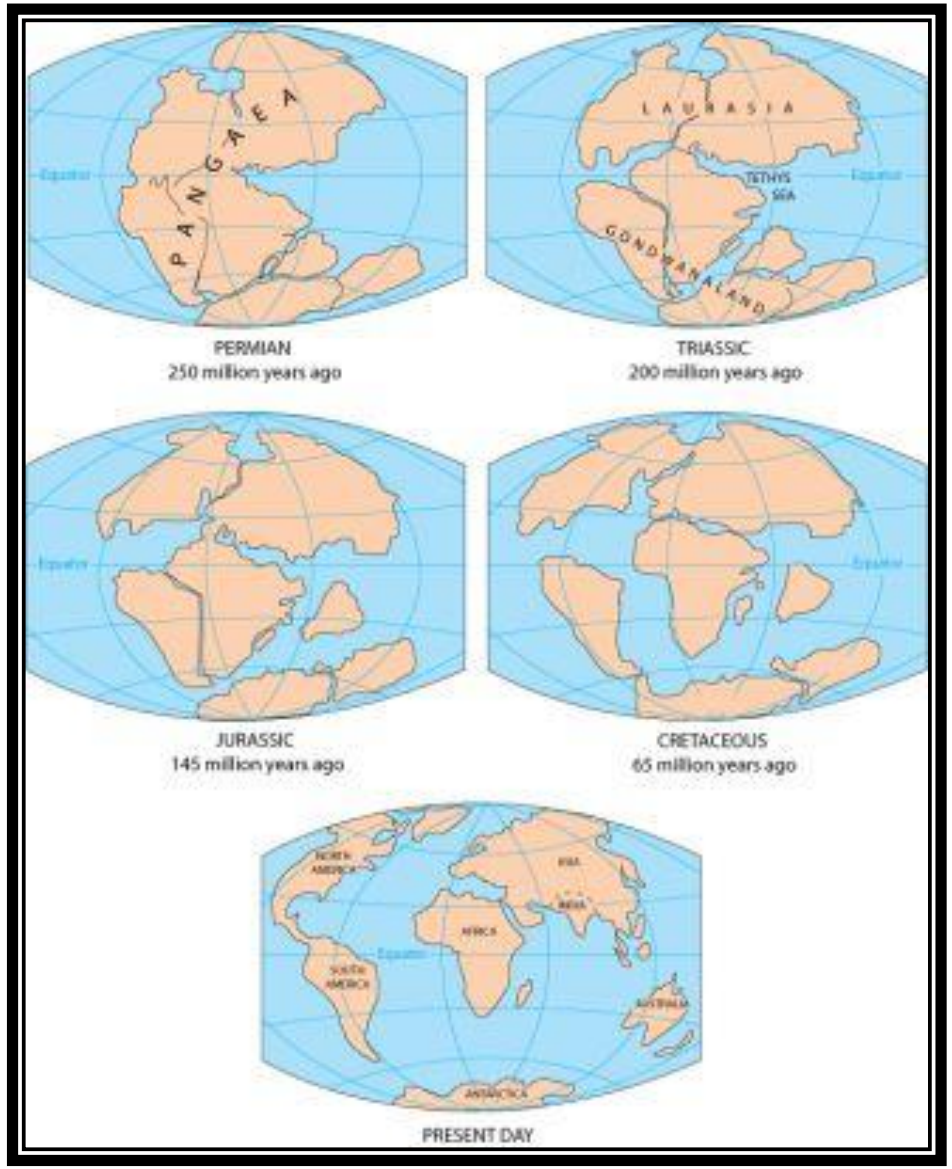


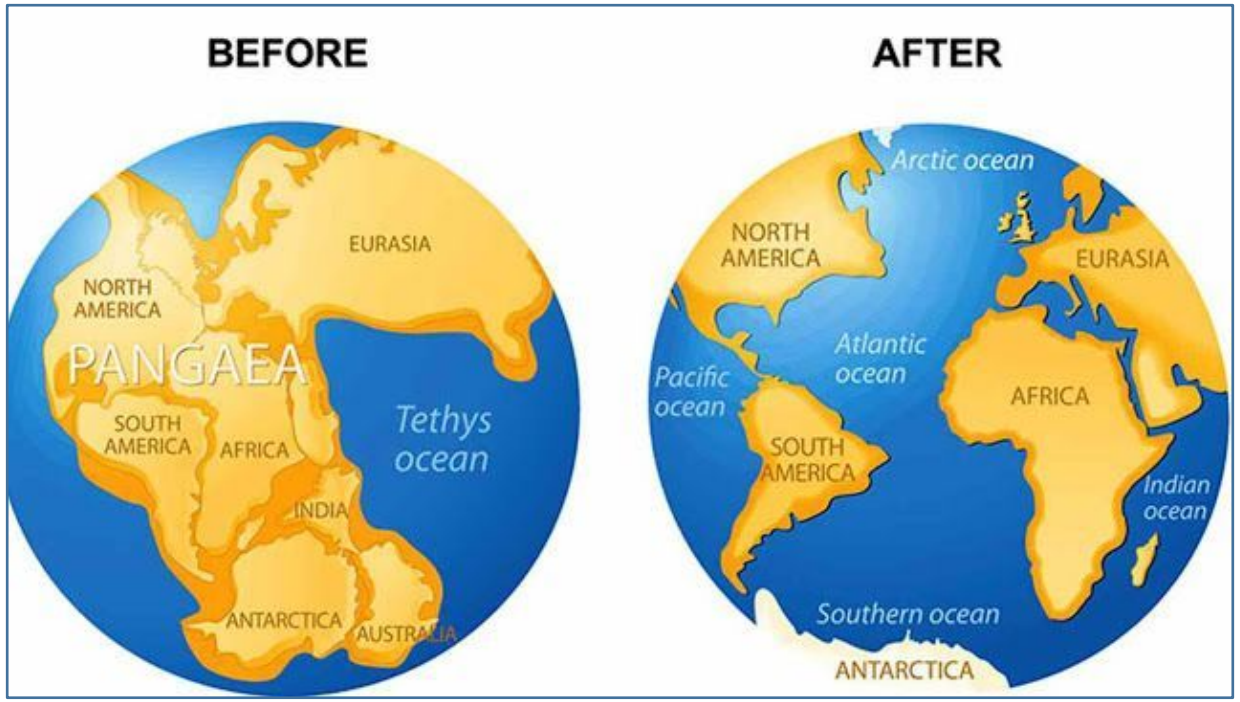


PANGEA

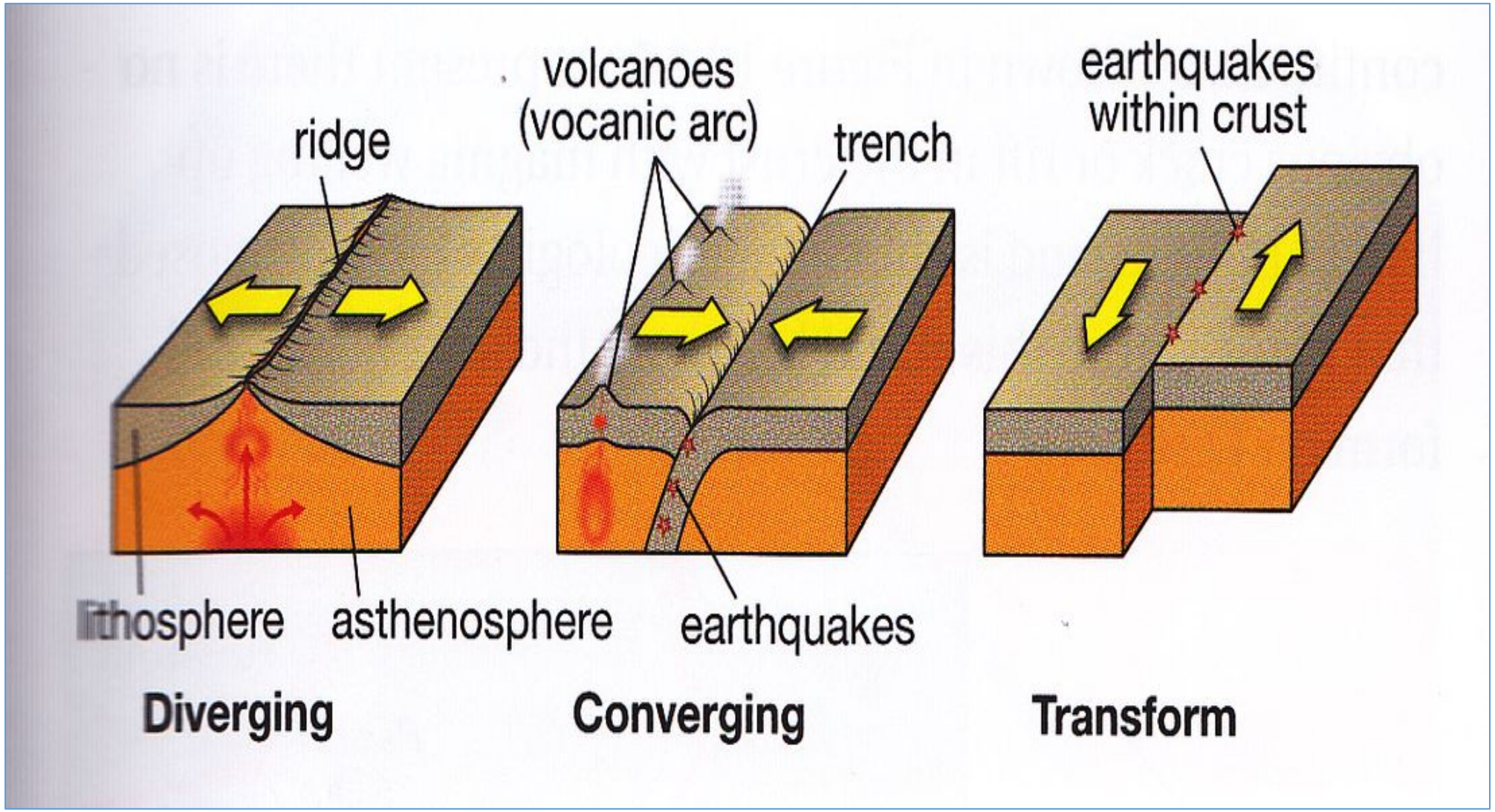
- Super continent
- fromed duing late paleozoic and early mesozoic era
- 335million years ago
- breakup- 175million years ago

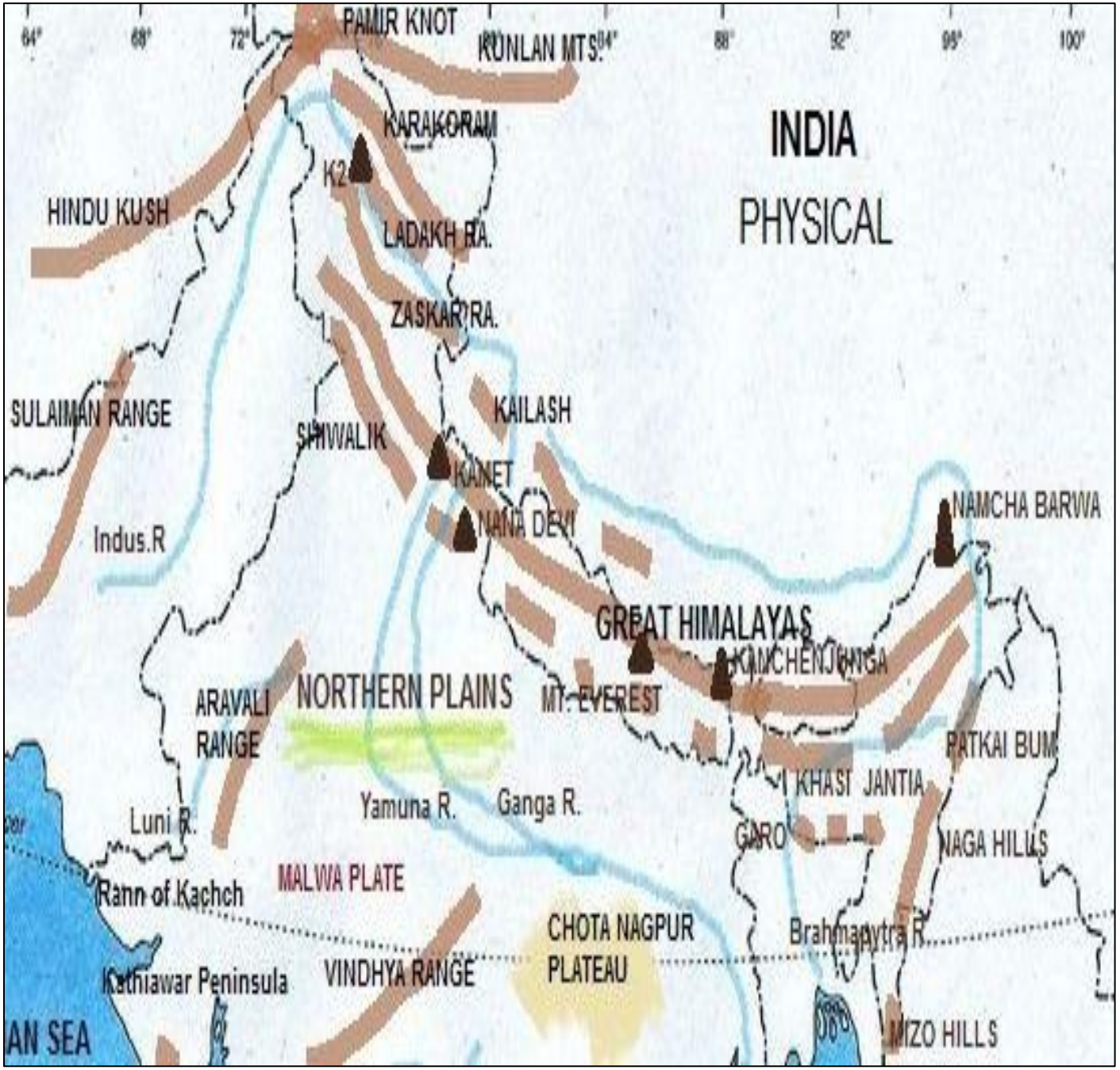
SPLIT OF PANGEA OVER AGES





TECTONIC PLATE MOVEMENT





HIMALAYA

- Asymmetrical young fold mountain
- Distance- 2400km
- Width- 400km (Kashmir) to 150km (Arunachal Pradesh)
- Abode of snow
- Runs in the west to east direction (Indus to Bramhaputra)
- Formed out of Tethys sea
- 60 million years ago (tertiary period)
- Under the control of sub-aerial erosion
- Loftiest and most rugged mountain barrier of the world

DIVISIONS OF HIMALAYA: PARALLEL DIVISION

- From north to south- Longitudinal
- three main divisions are:

1) HIMADRI
2) HIMANCHAL
3) SHIWALIK

1) HIMADRI

HIMADRI
Known as Greater/Inner Himalaya
Continuous range
Consist of loftiest peaks
Average elevation(6000mtr)
Asymmetrical mountain with southward spurs
Everlasting snow
Important mountain peaks are: Kanchanjhanga & Dhaulagiri
Compose of granite at the core

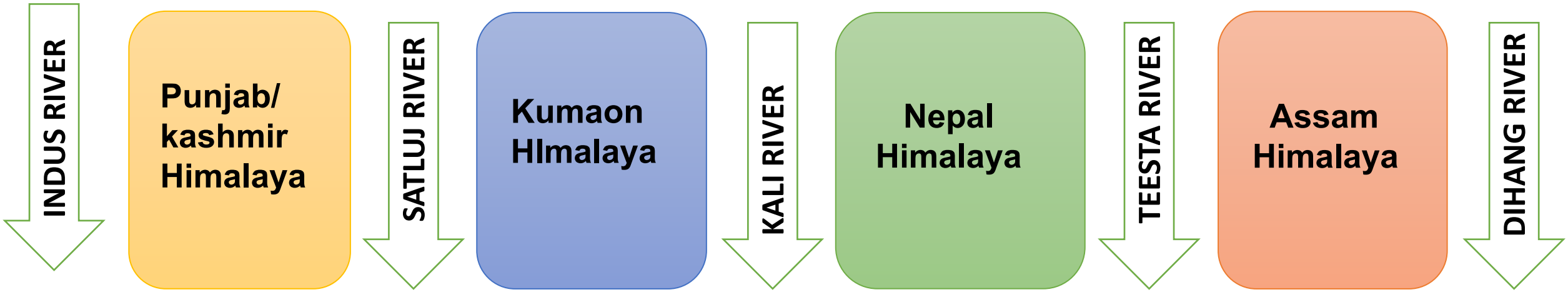
2) HIMANCHAL

HIMACHAL
Also known as lesser/middle Himalaya
Situated towards the south of Himadri
Rugged mountain system
Altitude: 3700 to 4500mts average width: 50km
Hill station: Mussoorie, Nainital, Ranikhet
Important valley: Kashmir, Kangra and Kullu valley
Important mountain ranges are: PirPranjal, Dhauladhar, Mahabharat Range
Made up of compressed and altered rocks

3) SHIWALIK

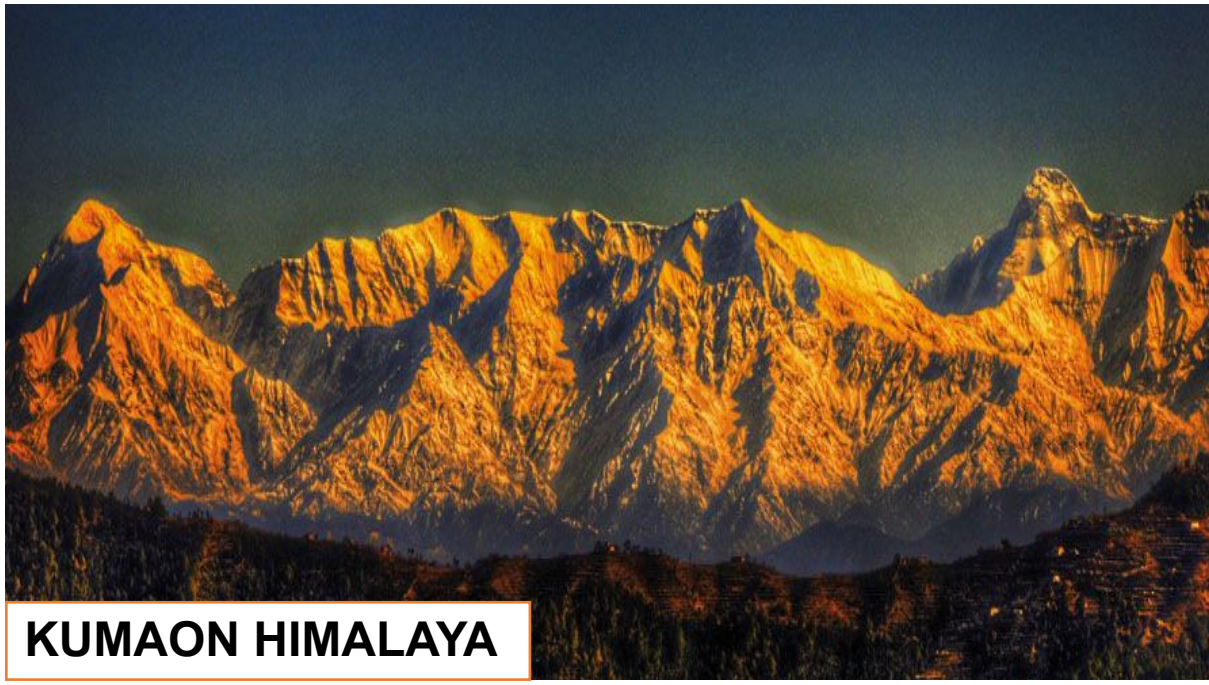
SHIWALIK
also known as outer Himalaya
covered with thick gravel & alluvium
width: 10-15km altitude: 900-1100mts
earthquake-prone area
Dunes found: Dehradun, Kotli Duns. Patli Duns
composed of unconsolidated sediments(river deposits)

DIVISIONS OF HIMALAYA: LONGITUTIONAL DIVISION



- In extreme east, beyond Dihang Gorge Himalaya bend to south and stretches to eastern boundary known as PURVANCHAL
- running through North-East states
- composed of sandstones
- dense forset
- parallel ranges and valley
- Important hills in Purvanchal: Patkai, Naga, Manipur and Mizo Hills

PUNJAB HIMALAYA



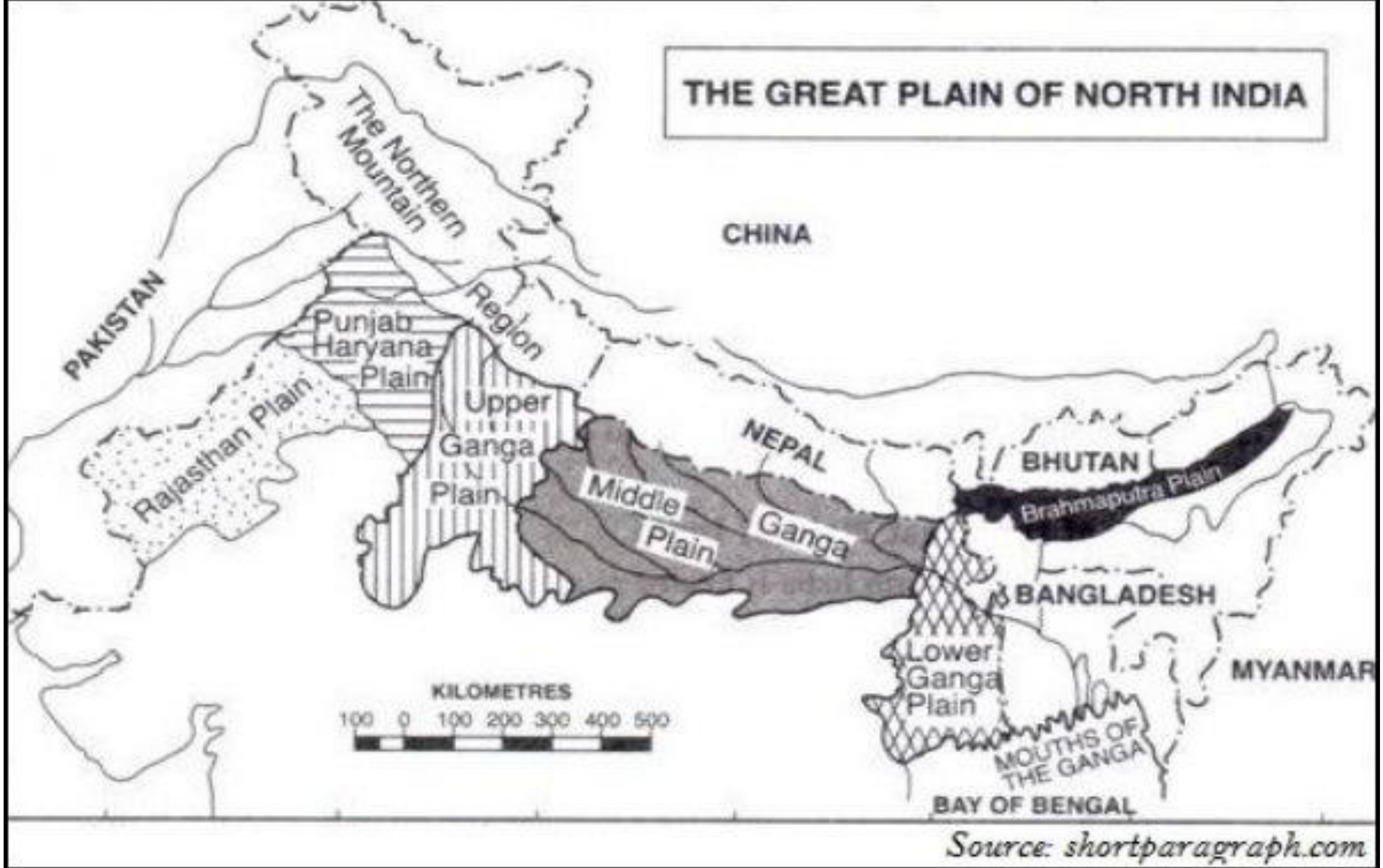
KUMAON HIMALAYA

NEPAL
HIMALAYA

ASSAM
HIMALAYA

NOTHERN PLAINS OF INDIA

- The interplay of three major river systems and its tributaries
- composed of alluvial soil (Bhangar, Khadar, etc)
- origin: two million years old
- spread over 7 lakh sq. km, length- 2400km, width- 240 to 320 km
- densely populated, adequate water supply, favorable climate, agriculturally productive
- Division of Northern plain:
    a) Rajsthan plain,
    b) Punjab Plain,
    c) Upper plain,
    d) Middle plain,
    e) Lower plain,
    f) Assam plain



Source: shortparagraph.com

NORTHERN PLAIN(cnted..)

on the basis of relief feature can be divied into four zone:

a) Bhabar
south of lower Himalaya and Shiwalik hills in Uttarakhand.
8 to 10 km wide
pebble studded rocks,porous beds, between Indus and Teesta

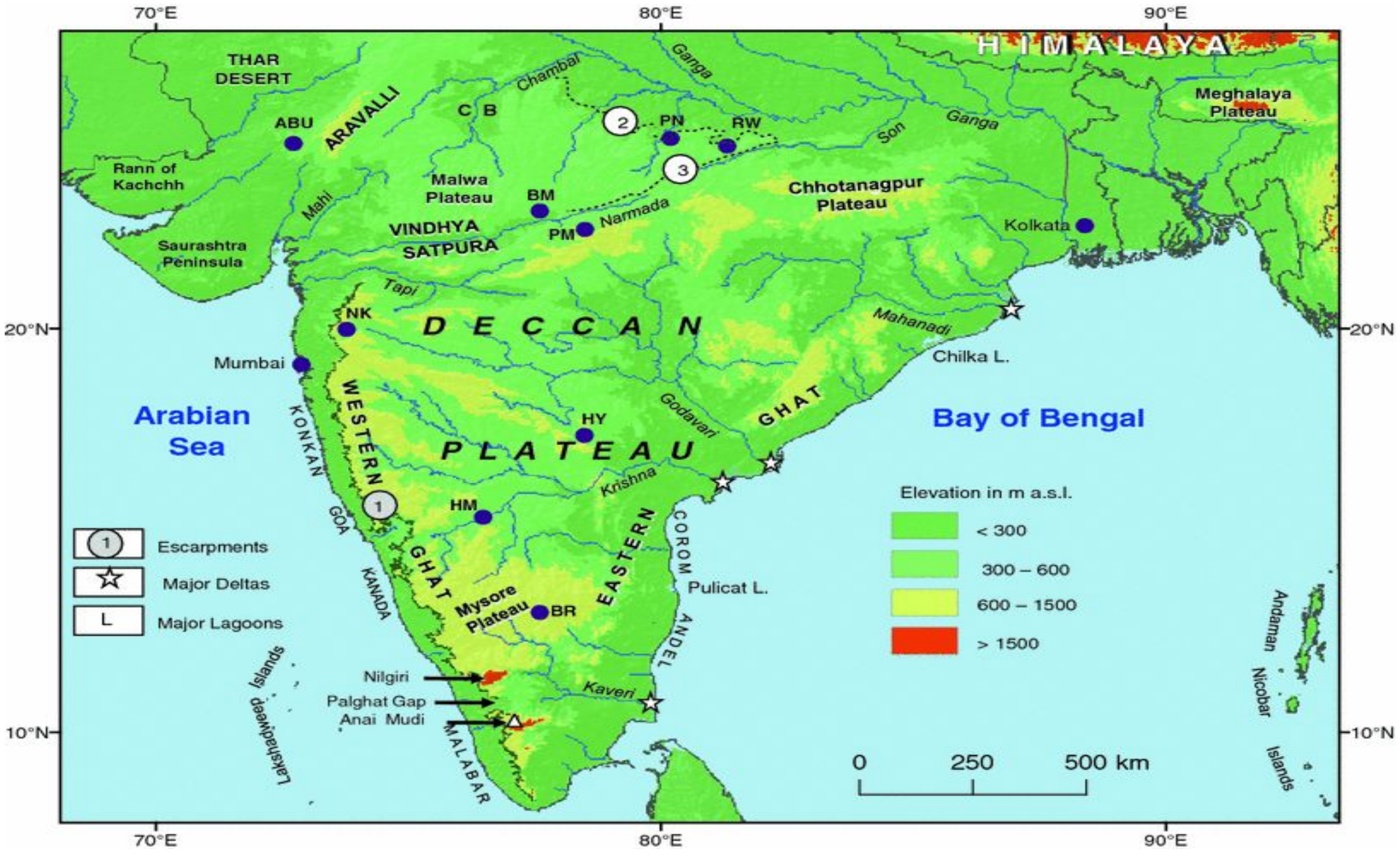
b)Terai
belt of marshy grassland & savannas
Located at the south of outer Himalayan foothills, north of Indo-Gangetic plain
The reemergence of streams lost in Bhabar
stretches- Yamuna river in west to Brahamaputra river in east
thick forest biodiversity
imp. national park named Dudhwa situated

c) Bhanger
Bhanger is the old alluvial soil, above the flood plain
contain calcareous deposit, locally called kankar,
slightly elevated and terraced land
found in the edge of Indo-Gangetic plain.
It is not renewable
kankar found

d) Khadar
new alluvial deposit
found- flood plain, pene plain, riverside, beds & deltas
fine particles found (sand+silt+clay)
high renewable frequently
no kankar found

PENINSULAR PLATEAU OF INDIA

- Tableland
- Composed of crystalline, Igneous and metamorphic rocks
- Formed due to breaking and drifting of Gondwana land
- Part of the oldest landmass
- Plateau has broad, shallow valley and rounded hills
- Peninsular experienced crustal movement, upper Carboniferous period
- Divided into two major area - a) central highland , b) Deccan plateau


70°E
80°E
90°E
20°N
10°N
HIMALAYA
THAR DESERT
ARAVALLI
ABU
Rann of Kachchh
Saurashtra Peninsula
Malwa Plateau
C B
Chambal
Ganga
Son
Ganga
Meghalaya Plateau
PN
RW
BM
PM
Narmada
Mahi
VINDHYA
SATPURA
Chhotanagpur Plateau
Kolkata
Tapi
NK
DECCAN
PLATEAU
Mumbai
Mahanadi
Chilka L.
Arabian Sea
Bay of Bengal
WESTERN GHAT
KONKAN
GOA
KANADA
HY
Godavari
Krishna
HM
EASTERN GHAT
COROM
ANDEL
Pulicat L.
Mysore Plateau
BR
Nilgiri
Palghat Gap
Anai Mudi
Kaveri
MALABAR
Lakshadweep Islands
Andaman Nicobar Islands
Escarpments
Major Deltas
Major Lagoons
Elevation in m a.s.l.
< 300
300 – 600
600 – 1500
> 1500
0
250
500 km

CENTRAL HIGHLAND

- A wide belt of hilly country
- Extension : Westward up to Aravali range and East up to Vindhyachal, south limit up to rift valley of Narmada
- Inhabited by Gonds, Santals, Orans and Bhils tribes.
- Imp ranges: Aravali, East Rajasthan upland, Madhya Bharat uplands, Bundelkhand upland, Malwaplateau, Vindhya scarplands and Narmada valley.
- ARAVALI:

= Extend south-west (Delhi toAhemedabad) 800km

= oldest tectonic fold mountain

= composed of hard Quartzites, Gurushikhar(1722m in Abu hills)

=elevation: 250-500m

CENTRAL HIGHLAND (cntd..)

- MADHYA BHARAT PATHAR :

= East of Chambal

= a rocky & densely forest area

= river Chambal flowing

= made up sandstone upland.

- BUNDELKHAND:

= Between Yamuna river & Vindhyan scarp land,

= ranging 100-300m

= old erosional surface made of granite.

- EASTERN ARAVALI:

= Rajasthan upland

= river Chambal and Banas flowing

- MALWA PLATEAU:

= Between Madhya Bharat pathar and Vindhya range

= lava plateau covered with black soil

= present at the north of Vindhya range

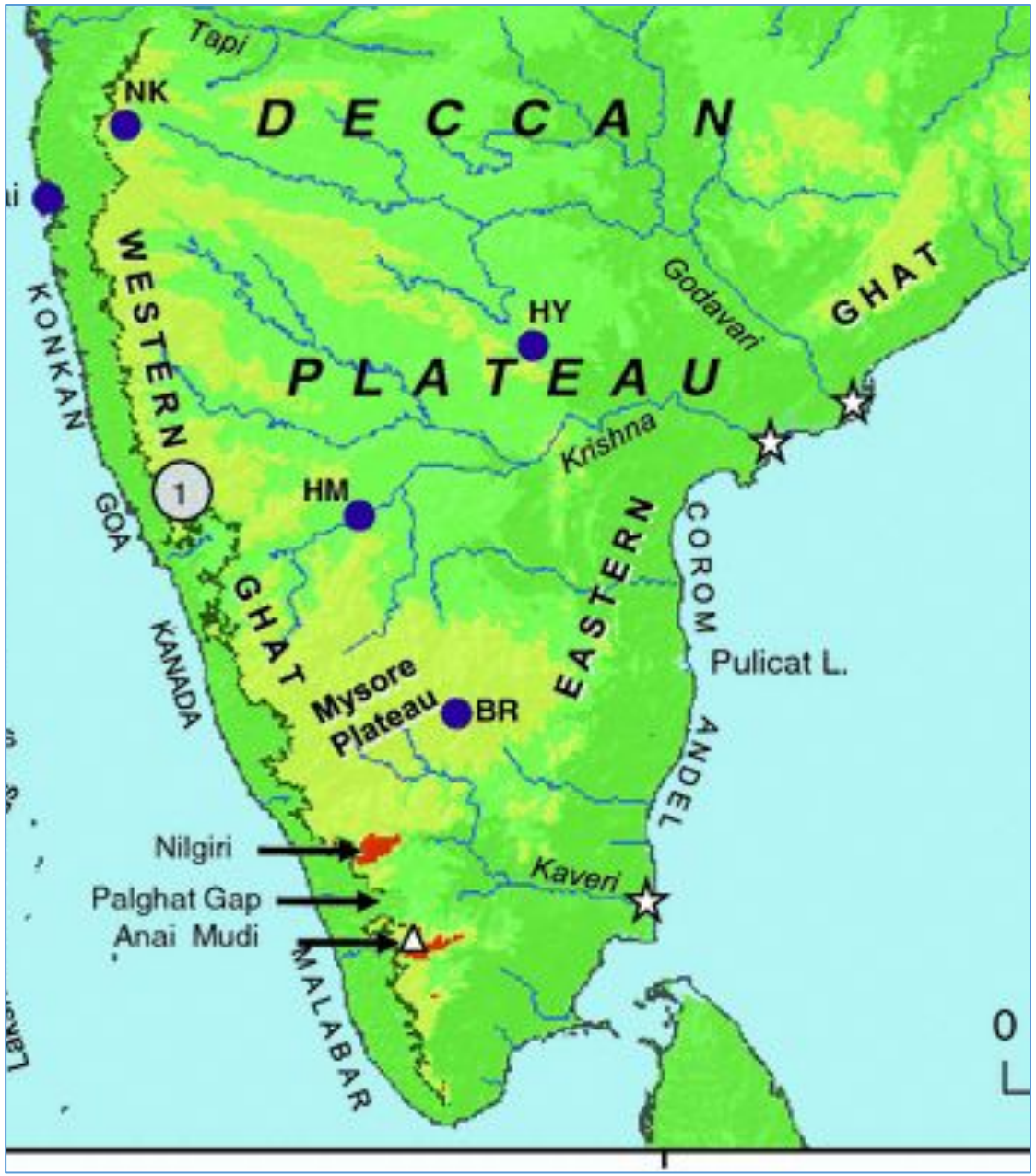
= Running parallel to Narmada River

= composed of sandstone, limestone, Quarzit and shales

= North-East section of Malwa plateau have scape land topoghaphy (Kimur Hills)

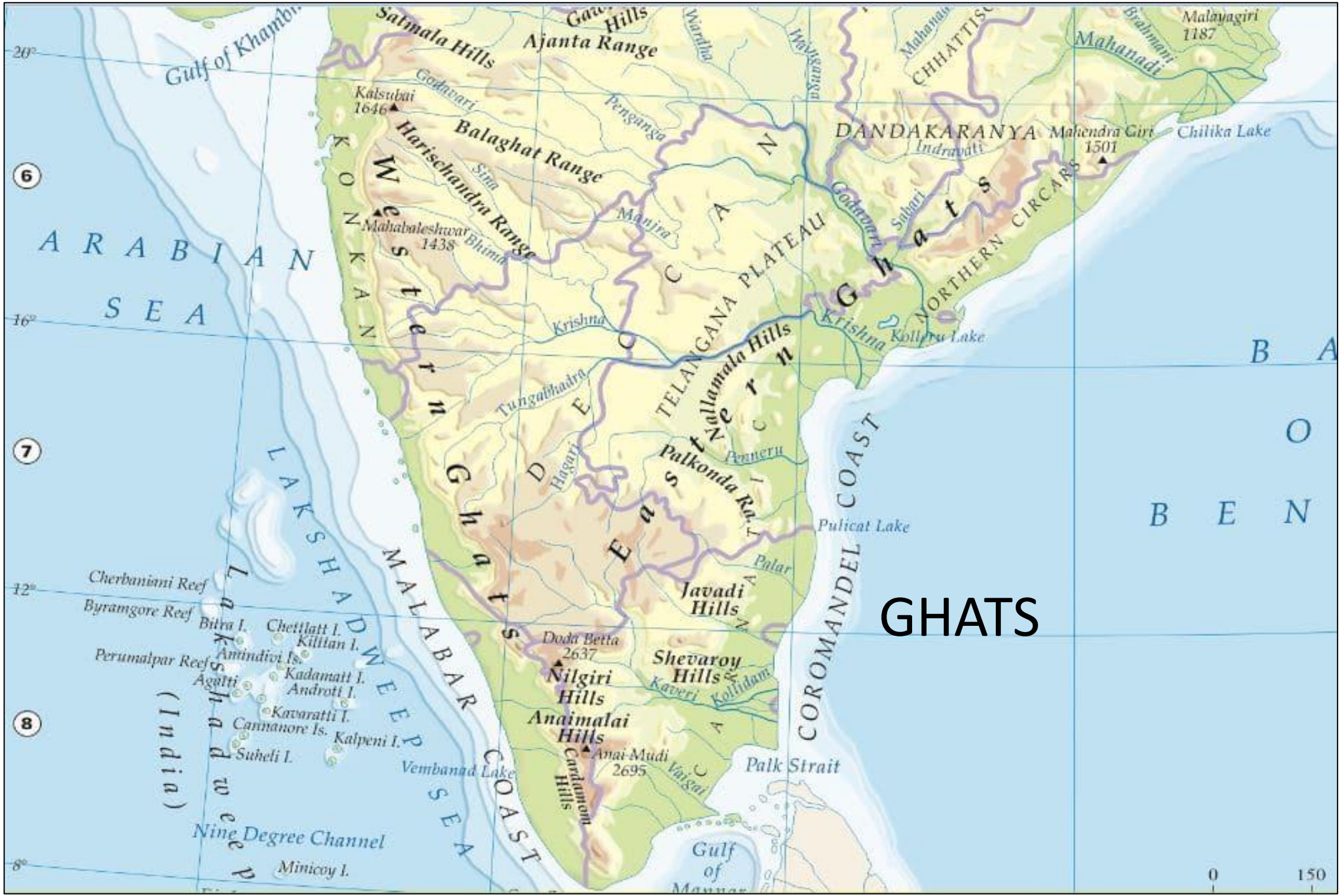
DECCAN PLATEAU

- Triangular landmass
- South of Narmada river
- Length : 1500km (North to South), 1400km(East to west),. Elevation: 1000mtr
- Satpura range in the north (broad base)
- Mahadev, Kaimur and Maikal ranges are eastern extension of Deccan Plateau
- Higher in the west and gentle slope towards the east
- North-east extension are : Meghalaya, Karbi-Anglong plateau and Cachar Hills
- Garo, Khasi and Jaintia Hills ranging from west to east.
- Separated by a fault Chotanagpur Plateau



GHATS - WESTERN & EASTERN GHATS

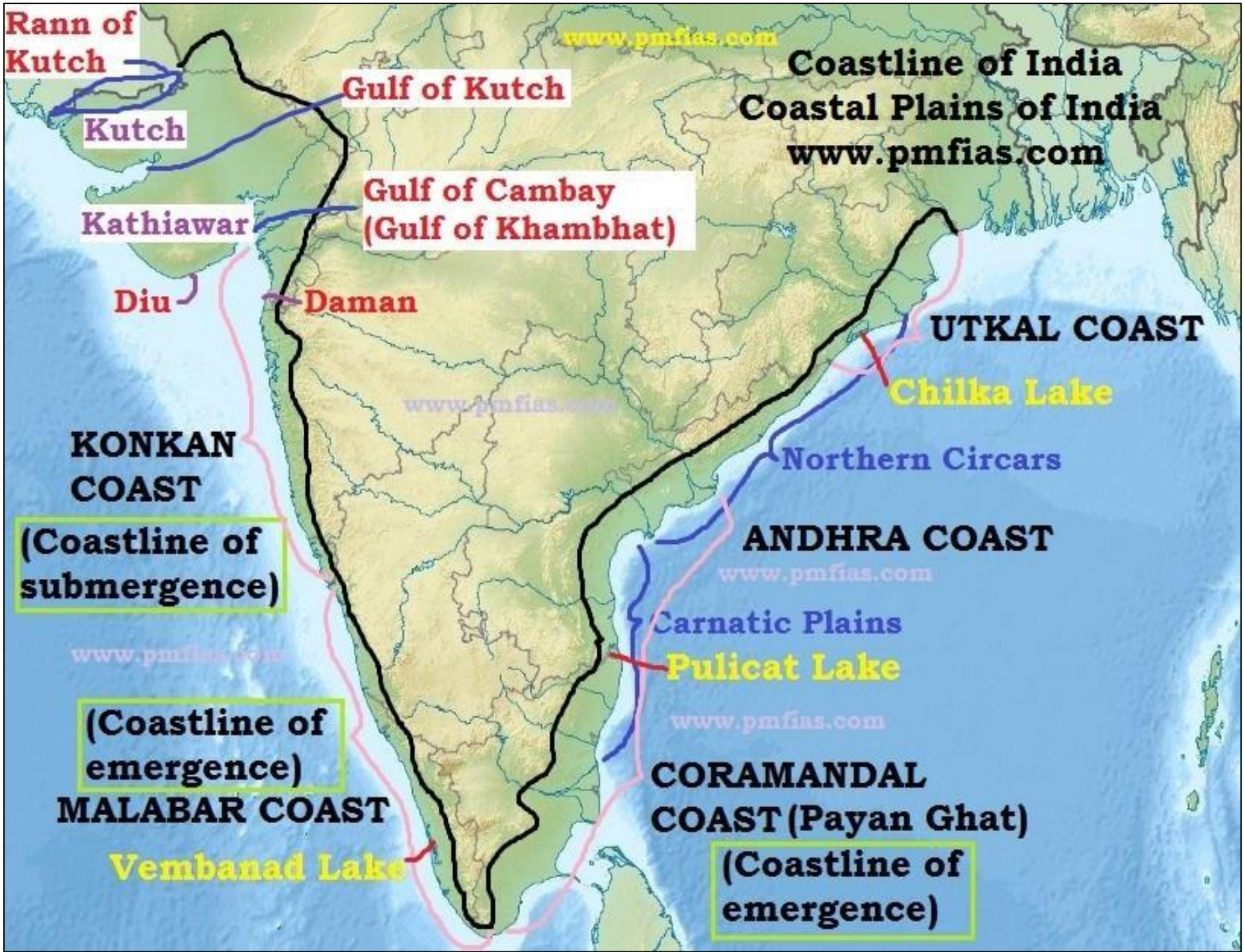
WESTERN GHAT	v/s	EASTERN GHAT
western edges of Deccan Plateau		eastern edge of Deccan Plateau
parallel to Malbar Coast		parallel to Coromandal Coast
its is continuous		Dissected
Avg. elevation: 900-1600mtr		Avg. elevation: 600mtr
Highest peak: Anai Mudi & Doda Betta		Highest peak: Mahendra Giri
Three passes: Thal, Bhor and Pal Ghats		No passes
Stretches from Gujarat to Kerala		Stretches from Mahanadi Valley to Nilgiri


GHATS
Satmala Hills
Ajanta Range
Gawilgarh Hills
Gulf of Khambhat
Kalsubai 1646
Harischandra Range
Balaghat Range
Western Ghats
KONKAN
Mahabaleshwar 1438
ARABIAN SEA
DECCAN
TELANGANA PLATEAU
Godavari
Pranhita
Wardha
Wainganga
Penganga
Sina
Manjra
Bhima
Krishna
Tungabhadra
Hagari
Pennaru
Palar
Kaveri
Kollidam
Vaigai
Cardamom Hills
Eastern Ghats
Nallamala Hills
Palkonda Ra.
Javadi Hills
Shevaroy Hills
Nilgiri Hills
Anaimalai Hills
Doda Betta 2637
Anai Mudi 2695
Mahanadi
Brahmani
Malayagiri 1187
CHHATTISGARH
DANDAKARANYA
Indravati
Sabari
Mahendra Giri 1501
NORTHERN CIRCARS
Chilika Lake
Kolleru Lake
Pulicat Lake
COROMANDEL COAST
BAY OF BENGAL
Palk Strait
Gulf of Mannar
MALABAR COAST
LAKSHADWEEP SEA
Lakshadweep (India)
Cherbaniani Reef
Byramgore Reef
Bitra I.
Chetlatt I.
Kilttan I.
Amindivi Is.
Perumalpar Reef
Agatti
Kadamatt I.
Andrott I.
Kavaratti I.
Cannanore Is.
Kalpeni I.
Suheli I.
Vembanad Lake
Nine Degree Channel
Minicoy I.
20°
16°
12°
8°
6
7
8
0
150

COASTAL PLAINS

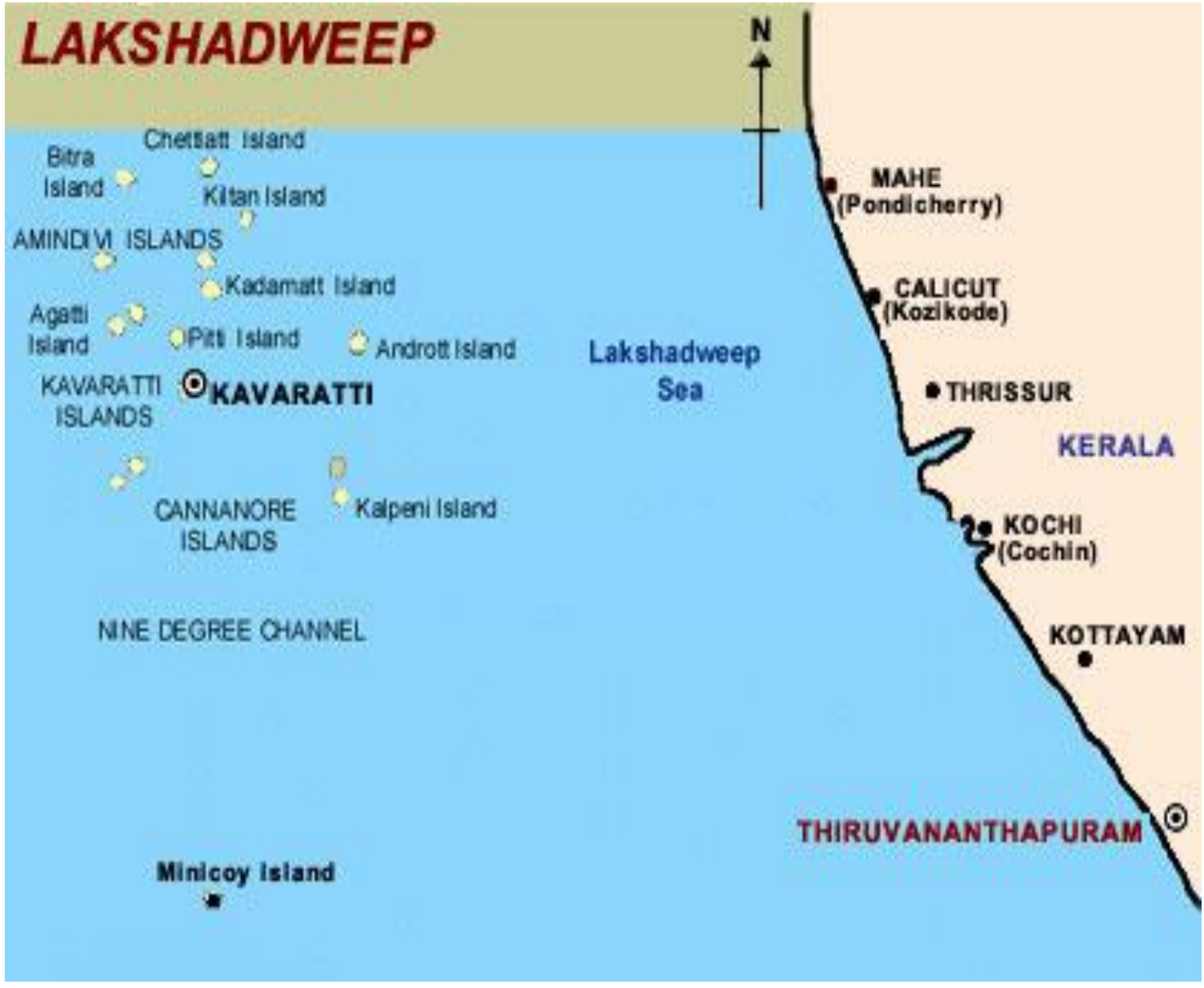
WESTERN COAST	EASTERN COAST
Parallel to western ghat, narrow plain	roughly parallel, wider & drier
Peninsular such as Kathiawar & Kachchh found	River: Mahanadi, Godavri, Krishna, Kaveri
Important river: Tapti and Narmada, Mandovi and Nuari	Mahanadi, Godavri, Krishna, Kaveri (Important Deltas)
Extensive plain of Gujarat, no Delta	monsoonal and cyclonic
more or less straight, sufficient rainfall (orographical)	width: 100 to 130 km
width-10 to25km	extended from Delta of Godavari to Kanyakumari
Konkan,Kannad plain &Malbar coast are important	Two large lagoons: Pulicut and Chillika
Continental shelves are wider	continental shelves are narrow except at Ganga mouth

INDIAN COAST



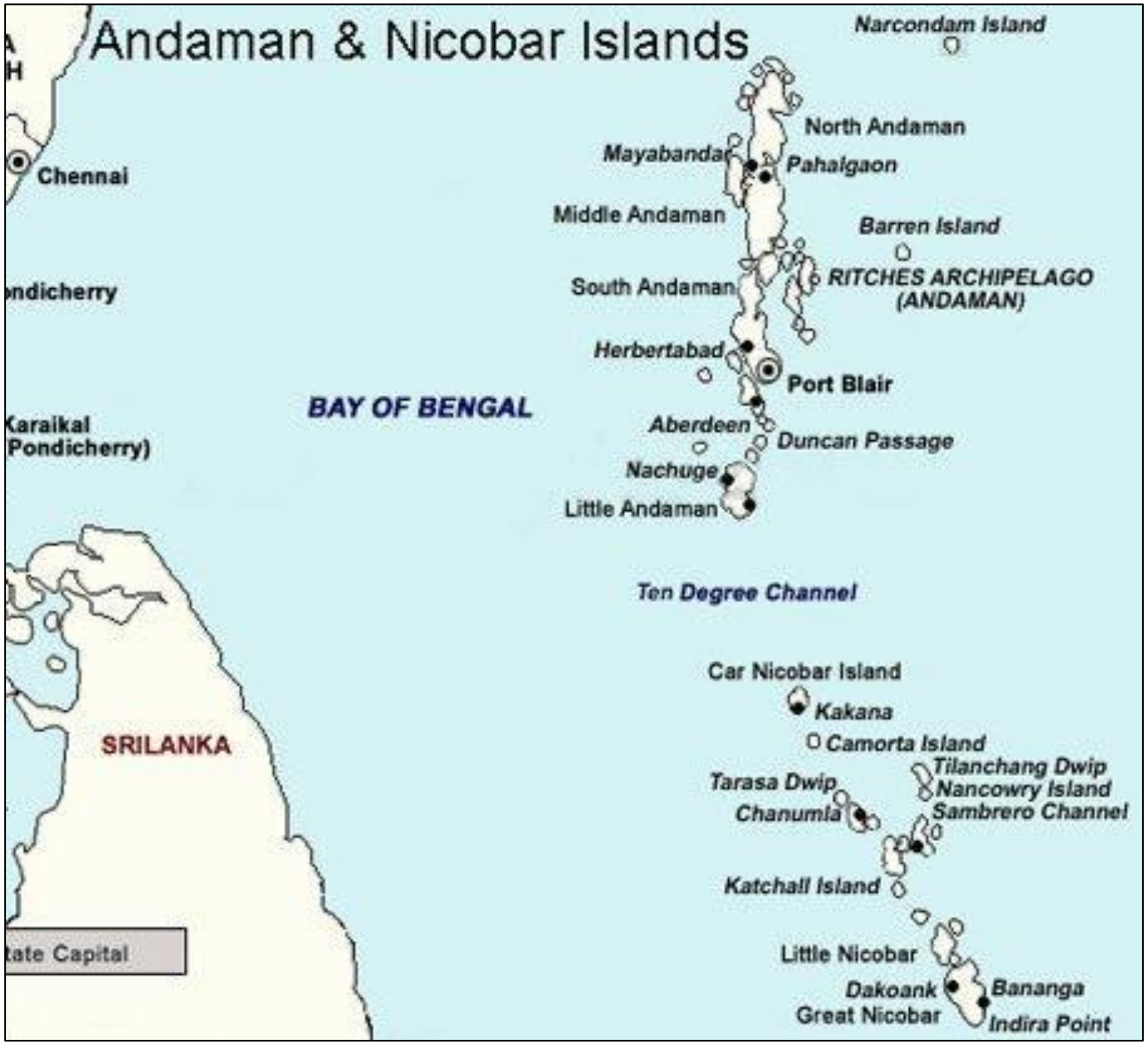
THE ISLAND GROUPS OF INDIA

LAKSHADWEEP
close to Malbar coast of Kerala
originates from coral reefs (skeleton of sea anemones)
area: 32 sq. km
Important Islands are Agati, Minicoy, Kadmat, Kalpani, Pitti, etc
a great diversity of flora and fauna
Pitti Island is uninhabited and a bird sanctuary is found



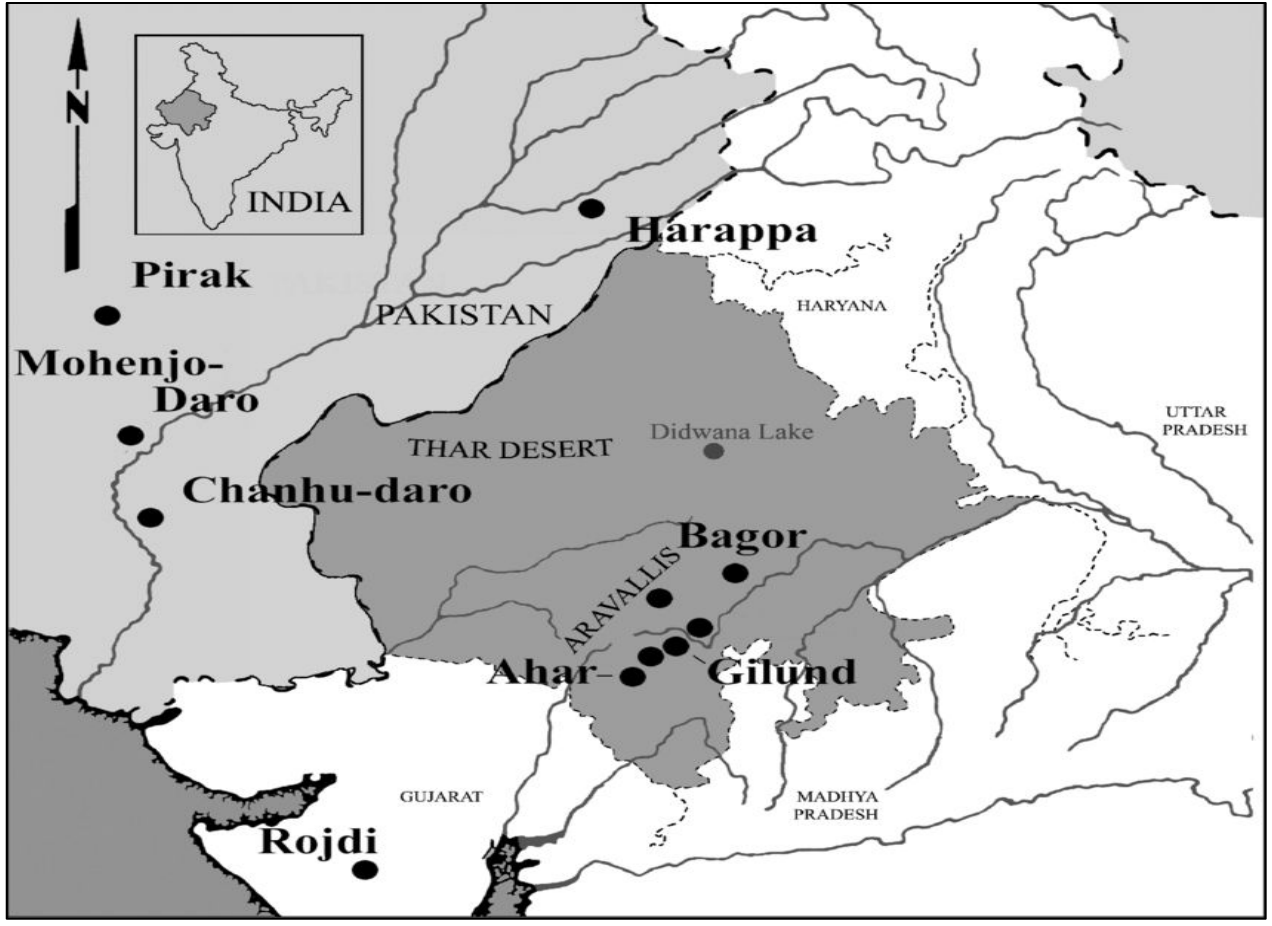
THE ISLAND GROUPS OF INDIA

ANDAMAN & NICOBAR
close to Coromandal Coast
originated from volcanic eruption
area: 8-49 sq. km
Elevated portion of submarine mountains
close to the equator and thick forest
Bigger in size, numerous and scattered



THE DESERT

- Indian desert is well known as the Thar desert.
- A large arid region in the North-West part.
- covers an area of 2,00,000 sq. km
- extensions of Thar desert: Indus River plain towards west, Punjab plain towards north and northeast, Aravalli Range towards southeast and Rann of Kachchh towards the south.
- subtropical desert climate with very low rainfall below 150mm
- undulating surface with high and low sand dunes
- Luni River is the largest river found
- Barchans found more prominently
- stream appears during rainy season only


N
INDIA
Harappa
Pirak
PAKISTAN
HARYANA
Mohenjo-
Daro
UTTAR
PRADESH
Didwana Lake
THAR DESERT
Chanhu-daro
Bagor
ARAVALLIS
Ahar-
Gilund
GUJARAT
MADHYA
PRADESH
Rojdi


THAR DESERT

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