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Quick Facts For Prelims-2023

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TOPICS

- INDIAN MOUNTAIN RANGES AND PLATEAU
- INDIAN RIVER SYSTEM
- INDIAN SOILS
- SEA & STRAITS
- MINERAL & BELTS
- LANDLOCKED COUNTRIES
- MAJOR INDUSTRIAL REGIONS
- PLACES IN NEWS
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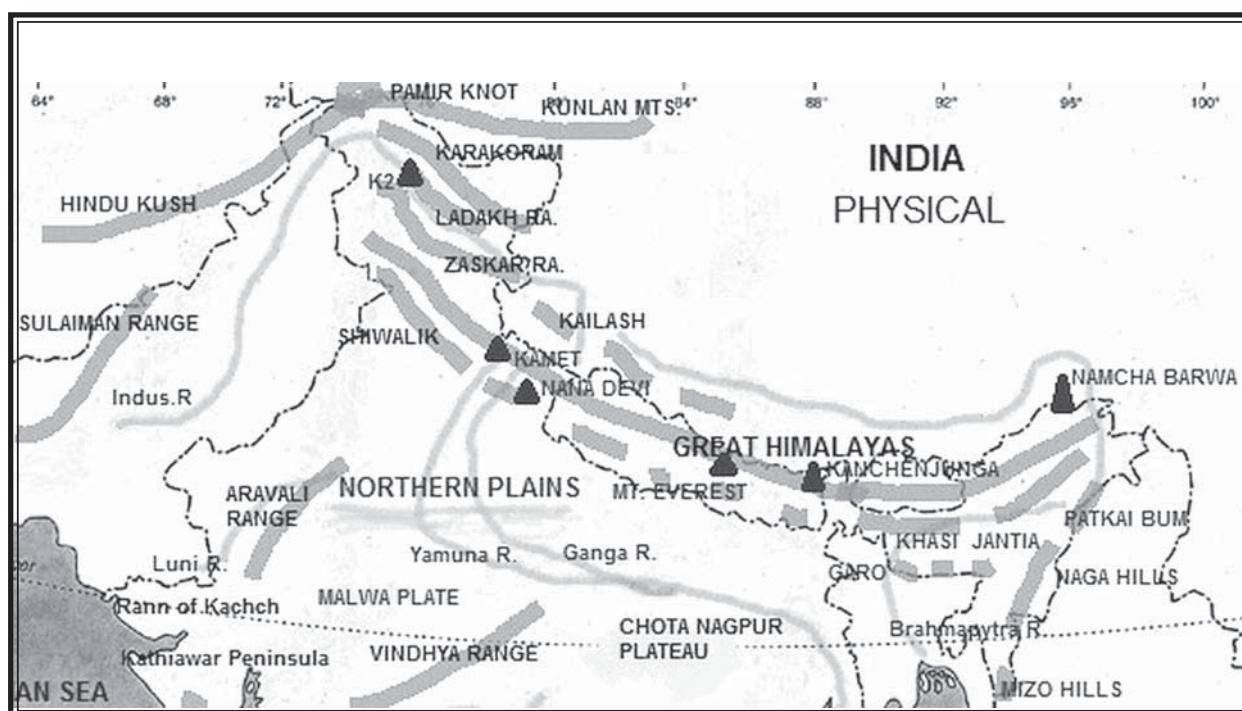
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INDIAN MOUNTAIN RANGES & PLATEAU

Mountain Ranges

- India has some of the **highest mountain ranges** in the world.
- It also has some of the **world's highest mountain roads**.
- The **Great Himalayan mountain** ranges are the famous and highest mountain hills of India.
- The **Himalayan mountain** range bisects India from the rest of Asia, this mountains is the primary source of mighty rivers in India.

The Himalaya Range



- Geography**
 - The Himalayas stretch across the northeastern portion of India. They cover approximately 1,500 mi (2,400 km) and pass through the nations of **India, Pakistan, Afghanistan, China, Bhutan, and Nepal**. The Himalayan range is made up of three parallel ranges often referred to as the **Greater Himalayas, the Lesser Himalayas, and the Outer Himalayas**.
- Ecology**
 - Montane Grasslands and Shrublands, Temperate Coniferous Forest, Temperate Broadleaf and Mixed Forests, Tropical and Sub-tropical Broadleaf Forests.
- Highest Peak**
 - Mount Everest** at 29,029 ft (8,848 m) is not only the highest peak in the Himalayas but the highest peak on the entire planet.
 - Other famous peaks include **Karakoram (K2), Kailash, Kanchenjunga, Nanga Parbat, Annapurna, and Manasklu**.
- Rivers**
 - The Himalayas are the source for the **Indus, the Yangtze, and the Ganga-Brahmaputra**. All three are major river systems for the continent of Asia.

- ▶ The main rivers sourced in the Himalayas are the **Ganges, Indus, Yarlung, Yangtze, Yellow, Mekong, and Nuijiang**.

◦ Glaciers

- ▶ The Himalayas are the **third-largest deposit of ice and snow** in the world, after Antarctica and the Arctic. There are approximately 15,000 glaciers located throughout the range. At

48 miles (72 km) in length, the Himalayan **Siachen glacier** is the largest glacier outside the poles.

- ▶ Other notable glaciers located in the Himalayas include the **Baltoro, Biafo, Nubra, and Hispur**.

◦ Passes

- ▶ Rohtang La, Khardung La, South Col, Zoji La, Nathula etc.

In News

ZOJI LA PASS

- For the first time Border Roads Organisation (BRO) has kept the Zoji mountain pass open beyond 31st December.
- Zoji La Pass is a high mountain pass at an elevation of 3,528 m (11,575ft) above the sea level, located in the Kargil district of Ladakh.
- It is the strategic link connecting Ladakh to Srinagar and the rest of India.
- Zojila Tunnel is being constructed to provide all-weather connectivity to Ladakh.
- Once completed, at 14.15 km, it will be India's longest road tunnel, and Asia's longest bi-directional tunnel.



Sinking of Joshimath

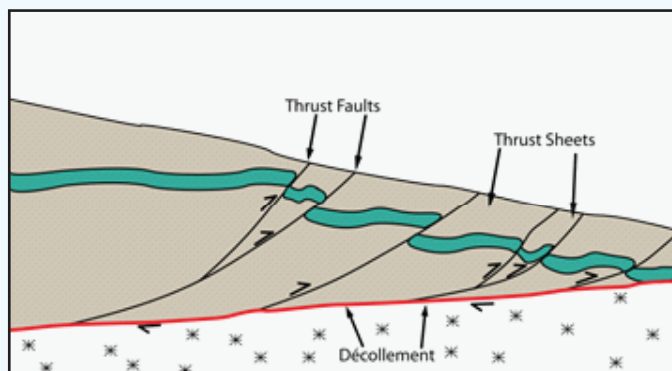
- The ancient Uttarakhand town has become a cause of concern.
- Located at a height of 6,000 feet in Uttarakhand's Chamoli district, the town on the route to Badrinath and Hemkund Sahib falls in **high-risk seismic 'Zone-V'**.
- It is located on the top of **Main Central Thrust (MCT) line**.
- The geography of entire state of Uttarakhand is fragile. And, Joshimath in particular is situated on old land deposits.
- The Jyotirmath Hindu monastery, one of the most important sites in Hinduism, is here.
- It also has nearby one of the closest military stations to the border with China.
- Ground subsidence, Tunnelling and slope cutting, **Tapovan-Vishnugad hydro project** and ongoing construction of **Helang bypass** are considered as the main reasons.

Main Central Thrust (MCT) line

- In simplest terms, the MCT is a crack or geological fault in Himalayas.
- It is formed due to the collusion of Indo-Australian plate and Eurasian plate.
- The area underneath the MCT is particularly very fragile due to frequent tectonic activities.
- And, therefore, seismic activities are very common in MCT areas.



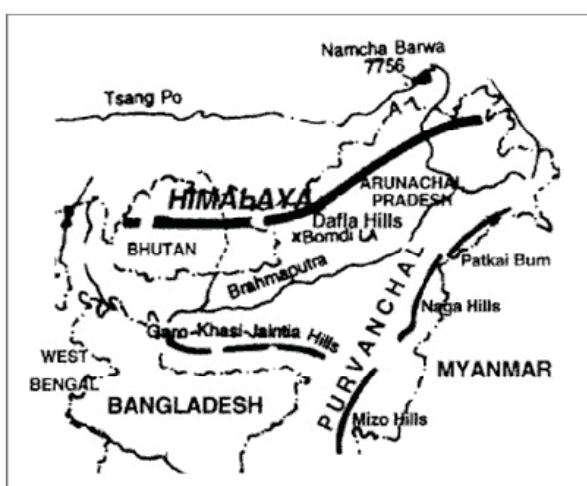
- The MCT extends for over 2200 km across the Himalayas in northwest-southeast direction. Joshimath is located above the MCT.



- The **Mishra Committee report of 1976** as saying that “Joshimath lies on an ancient landslide” and that heavy construction work ought to be barred.

The Purvanchal Range

- Geography
 - ▶ They extend over an area of about 37,900 square miles (98,000 square km) in Arunachal Pradesh, Nagaland, Manipur, Mizoram, Tripura, and eastern Assam states.
 - ▶ The area is bounded by Bangladesh to the southwest, Myanmar (Burma) to the southeast, and China to the northeast.
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- Highest Peak

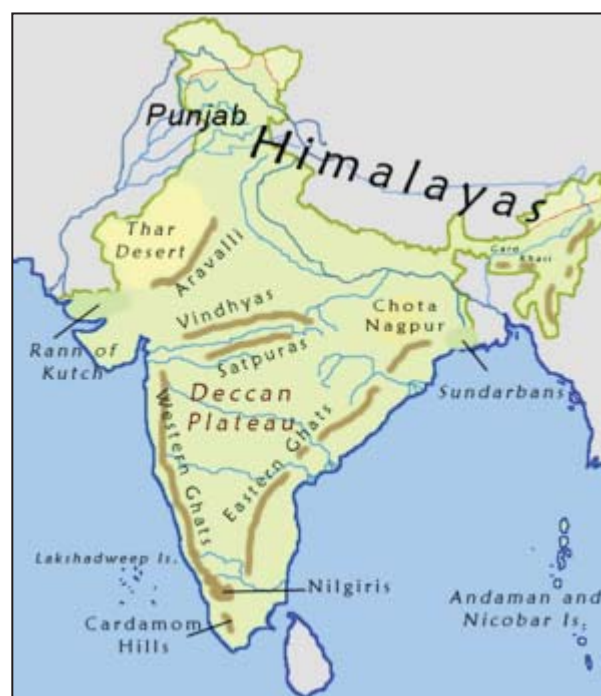


- The highest peak in the region is **Mount Dapha (in Arunachal Pradesh)**, with an elevation of 15,020 feet (4,578 metres).
 - ▶ The Patkai and other associated mountain ranges (including the Mishmi, Naga, Manipur, Tripura,

and Mizo hills) that run through this region are referred to collectively as Purvachal (Purva, “east,” and achal, “mountain”).

◦ Vegetation

- ▶ The vegetation is diverse, ranging from tropical evergreen to temperate evergreen and coniferous, and includes species of oak, chestnut, birch, magnolia, cherry, maple, laurel, and fig; there are also extensive bamboo thickets.



◦ Rivers

- ▶ The major rivers are the Lohit, Burhi Dihang, Diyung, Kusiya, Gumti, Kaladan, Manipur, Tixu, Nantaleik, and Naurya.

The Vindhya Range

Geography

- ▶ Vindhya Range, a broken range of hills forming the southern escarpment of the central upland of India.
- ▶ From Gujarat state on the west, it extends about 675 miles (1,086 km) across Madhya Pradesh state to abut on the Ganges (Ganga) River valley near Varanasi, Uttar Pradesh.
- ▶ The mountains form the southern edge of the Malwa Plateau and then divide into two branches: the Kaimur Range, running north of the Son River into western Bihar state, and the southern branch, running between the upper reaches of the Son and Narmada rivers to meet the Satpura Range in the Maikala Range (or Amarkantak Plateau).

Highest Peak

- ▶ **Amarkantak is the tallest peak** of Vindhya Range with an elevation of 1,048 m (3,438 ft) in Madhya Pradesh.

Rivers

- ▶ It gives rise to the main southern tributaries of the Ganges-Yamuna system, including the Chambal, Betwa, Ken, and Tons rivers.

across the widest part of peninsular India, through Maharashtra and Madhya Pradesh states.

Rivers

- ▶ Satpura range is triangular with its apex at **Ratnapuri other two sides being parallel to the Tapti and Sacred Narmada River.**
- ▶ The Narmada and the Tapti are the only major rivers that flow into the Arabian Sea.

Highest Peak

- ▶ The highest peak of the Satpura mountain range is Dhupgarh with a height of 1,350 m (4,429 ft) in Madhya Pradesh.
- ▶ With peaks more than 4,000 feet (1,200 metres) high, the Satpura Range includes the Mahadeo Hills to the north, the Maikala Range to the east, and the Rajpipla Hills to the west.

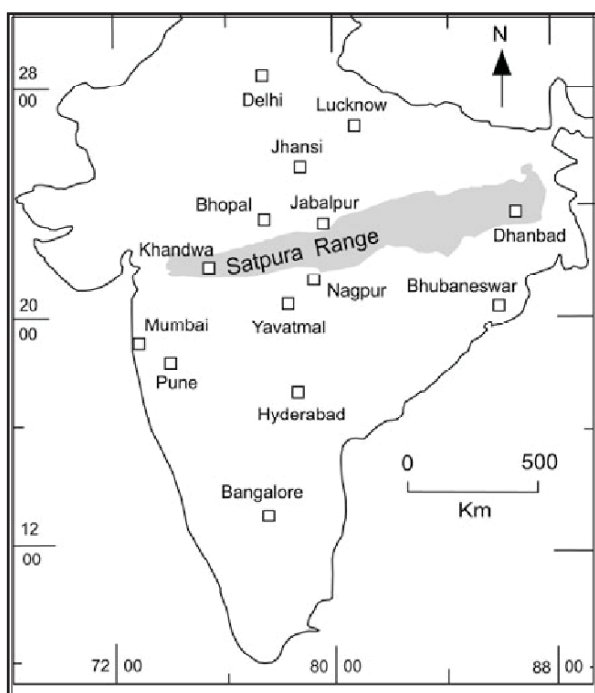
Vegetation

- ▶ It is largely forested, dissected plateau country, and it contains valuable teak stands in the west.

The Satpura Range

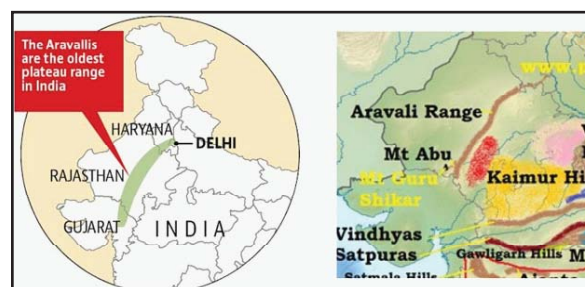
Geography

- ▶ Satpura Range, range of hills, part of the Deccan plateau, western India.



- ▶ The hills stretch for some 560 miles (900 km)

The Aravalli Range



Geography

- ▶ Aravalli Range, also spelled Aravali Range, hill system of northern India, running north-easterly for 350 miles (560 km) through Rajasthan state. Isolated rocky offshoots continue to just south of Delhi.
- ▶ The Aravalli Range is the eroded stub of a range of **ancient folded mountains.**

Highest Peak

- ▶ **Guru Peak** on Mount Abu, the highest peak in the Aravalli Range.

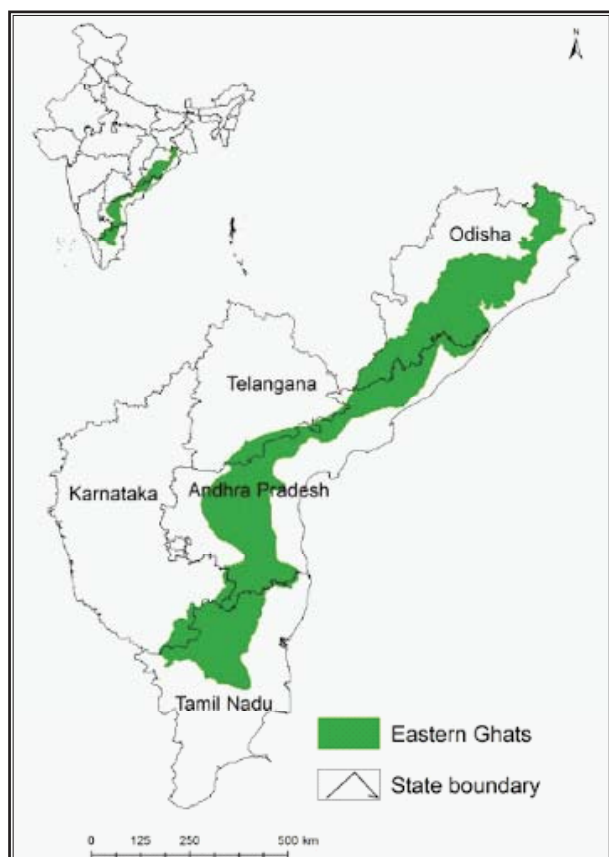
Rivers

- ▶ It gives rise to several rivers, including the Banas, Luni, Sakhi, and Sabarmati.

The Western Ghats



- **Geography**
 - The range starts near the border of Gujarat and ending at Kanyakumari.
 - About sixty percent of the Sahyadri Range is located in the state of Karnataka.
- **Ecology**
 - This area is one of the world's ten hottest biodiversity hotspots.
 - ▶ The Arabian Sea area is known as the Konkan area, one of the best tourist attractions in India.
 - ▶ Green city Pune is the largest city within this mountain range in Maharashtra.



- ▶ The Western Ghats mountain ranges make up an impressive fortress all along with Kerala.
- ▶ There are several beautiful hill stations and wildlife sanctuaries in Kerala.
- **Highest Peak**
 - ▶ **Anai Mudi in the Anaimalai Hills in Kerala** is the highest peak in the Western Ghats.
 - ▶ The Ghats also offer the best valley's scenery-view throughout the journey.
- **Rivers**
 - The major river systems originating in the Western Ghats are the Godavari, Kaveri, Krishna, Thamiraparani, and Tungabhadra rivers.

The Eastern Ghats

- **Geography**
 - ▶ The Eastern Ghats is an irregular range of mountains, its range starts from West Bengal to Tamil Nadu
- **Rivers**
 - ▶ It includes four major rivers **The Godavari, Mahanadi, Krishna, and Holy Kaveri.**
 - ▶ The **Nilgiri hills "The Blue Mountains" in Tamil Nadu** lies at the junction of the Eastern and Western Ghats.
 - ▶ This area has the largest population of the Indian elephant.
 - ▶ These discontinuous mountain ranges run parallel to the Bay of Bengal.
- **Highest Peak**
 - **The Shevaroy hill** is the highest peak in the Eastern Ghats.

Plateaus

Some of the major plateaus of peninsular India are as follows:

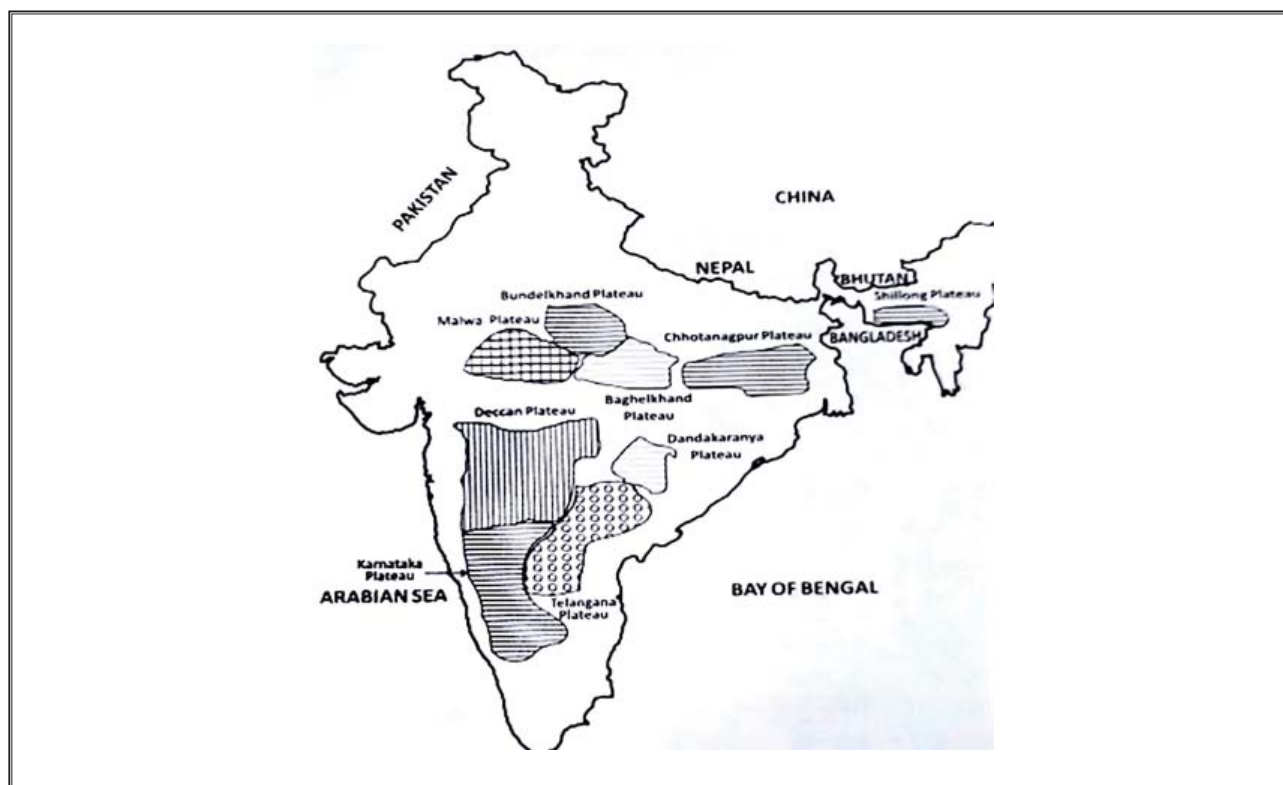
- **The Marwar Upland**
 - ▶ This is also called the **Upland of eastern Rajasthan** as it lies in the **east of the Aravali Range.**
 - ▶ The average elevation of this area is 250-500 m above sea level and it slopes down eastwards.
 - ▶ It is made up of **sandstone, shales, and limestones** of the Vindhayan period.
 - ▶ The **Banas River originates in the Aravali Range** and flows for about 400 km before joining the Chambal River.

- ▶ The area has been carved into a **rolling plain** by the **erosional work of the Banas River** and its **tributaries**.
- **The Central Highland**
 - ▶ Also called the **Madhya Bharat Pathar** is in the **east of the Marwar Upland**.
 - ▶ Most of it comprises of the **basin of the Chambal River** which flows in a rift valley.
 - ▶ **The Sindh and the Parhati** are its main tributaries.
 - ▶ It is an open rolling plateau made of old rocks that are interspersed with rounded hills composed of sandstone.
 - ▶ Thick forests grow here. To the north are the **ravines or badlands of the Chambal River**.
- **The Bundelkhand Upland**
 - ▶ To the **south of the Yamuna river** between the Madhya Bharat Pathar and the Vindhyan Scarplands is the old dissected upland of the **'Bundelkhand gneiss' comprising of granite and gneiss**. This is called **Bundelkhand upland**.
 - ▶ This upland spreads **over five districts of Uttar Pradesh** (Jalaun, Jhansi, Lalitpur, Hamirpur, and Banda) and **four districts of Madhya Pradesh** (Datia, Tikamgarh, Chhatarpur, and Panna).
 - ▶ With an average elevation of 300-600 m above sea level, this area slopes down from the **Vindhyan Scarp** toward the Yamuna River.
 - ▶ The area is recognized by a mass of **rounded hummocky hills** made of **granite and sandstone**.
 - ▶ In the north-west and north-east, the system is covered by the **Ganga-Yamuna alluvium** and in the **south-west by the Deccan Trap**.
 - ▶ The erosional work of the rivers flowing here has converted it into an **undulating area and rendered it unfit for cultivation**.
 - ▶ The region is characterized by **senile topography**.
 - ▶ Streams like **Betwa, Dhasan, and Ken** have carved out steep gorges, precipitous rocky banks, and waterfalls.
- **The Malwa Plateau**
 - ▶ The Malwa Plateau roughly forms a **triangle based on the Vindhyan Hills**, bounded by the **Aravali Range in the west** and sharply defined scarp overlooking **Bundelkhand in the east**. The plateau inherits **complex geology**; scarcely any one of the peninsular groups is unrepresented here.
- ▶ This plateau has **two systems of drainage**:
 - ▶ **One towards the Arabian Sea** (The Narmada, the Tapi, and the Mahi), and
 - ▶ **The other towards the Bay of Bengal** (Chambal and Betwa, joining the Yamuna).
 - ▶ In the **north, it is drained by the Chambal** and many of its **right bank tributaries like the Kali, the Sindh, and the Parbati**.
 - ▶ It also includes the upper courses of **the Sindh, the Ken, and the Betwa**.
 - ▶ It is composed of an **extensive lava flow** and is covered **with black soils**.
 - ▶ There are **rolling surfaces and flat-topped hills** dissected by rivers flowing through the area.
 - ▶ In the north, the plateau is marked by the **Chambal ravines**.
- **The Baghelkhand**
 - ▶ **East of the Maikal Range is the Baghelkhand** made of **limestones and sandstones** on the **west and granite in the east**.
 - ▶ It is bounded by the **Son River on the north**, and to its **south occurs anticlinal highlands and synclinal valleys of sandstones and limestones**.
 - ▶ The central part of the plateau acts as a **water divide** between the **Son drainage system in the north and the Mahanadi river system in the south**.
 - ▶ The main elements of physiography are **scarps of the Vindhyan sandstones** between the **Ganga plain and the Narmada-Son trough**.
 - ▶ The **Panna and Kaimur** are located close to the trough-axis.
 - ▶ The general horizontality of the strata shows that this area has not undergone any major disturbance.
- **The Chotanagpur Plateau**
 - ▶ East of Baghelkhand, the Chotanagpur plateau represents the **north-eastern projection of the Indian Peninsula**.
 - ▶ It covers areas mostly in **Jharkhand, the northern part of Chhattisgarh, and the Purulia district of West Bengal**.
 - ▶ The Son River flows in the north-west of the plateau and joins the Ganga.
 - ▶ This plateau is composed mainly of **Gondwana rocks** with **patches of Archaean granite and gneisses and Deccan Lavas**.
 - ▶ The Chotanagpur plateau virtually consists of a

series of plateaus standing at different levels of elevation.

- ▶ The highest general elevation of about 1,100 m is in the mid-western portion known as the **Pat lands** (high-level laterite plateau).
 - ▶ From here, the land descends in all directions in a series of steps which are marked by **waterfalls across the rivers**.
 - ▶ The plateau is drained by numerous rivers and streams in different directions and presents a **radial drainage pattern**.
 - ▶ Rivers like the **Damodar, the Subarnarekha, the North Koel, the South Koel, and the Barkar** have developed extensive drainage basins.
 - ▶ The Damodar River flows through the middle of this region in a rift valley from west to east. Here are found the **Gondwana coal fields** which provide the bulk of coal in India.
 - ▶ North of the Damodar river is the **Hazaribagh plateau** with an average elevation of 600 m above mean sea level. This plateau has isolated hills; **Parasnath** in the east.
 - ▶ The area is **made of granites and gneisses** while the hills have **quartz rocks**. It looks like a **peneplain** due to large scale erosion.
 - ▶ The **Ranchi Plateau** to the south of the Damodar Valley rises to about 600 m above mean sea level.
 - ▶ **The Netarhat Pat and Goru** rise to 1,119 and 1,142 m above sea level respectively. Most of the surface is rolling where the city of Ranchi (661 m) is located. At places, it is interrupted by **monadnocks and conical hills**.
 - ▶ The **Rajmahal Hills** forming the northeastern edge of the Chota Nagpur Plateau are mostly made of basalt and are covered by lava flows.
 - ▶ They run in the north-south direction and rise to an average elevation of 400 m (highest mount is 567 m). These hills have been dissected into separate plateaus.
- **The Meghalaya Plateau**
- ▶ The rocks of the peninsular plateau of India extend further north-east beyond the Rajmahal hills and form a rectangular block known as the **Meghalaya or the Shillong plateau**.
 - ▶ This plateau has been separated from the main block of the peninsular plateau by a wide gap known as the **Garo-Rajmahal Gap**.
 - ▶ This gap was formed by **down-faulting** and was later on filled by sediments deposited by the Ganga.
- ▶ Extending over an area of about 35 thousand sq km, this plateau is largely formed by **Archaean (Dharwarian) quartzites, shales, and schists with granite intrusions and some basic silt**.
 - ▶ The plateau slopes down to **Brahmaputra valley in the north** and the **Surma and Meghna valleys in the south**.
 - ▶ Its western boundary **more or less coincides with the Bangladesh border**.
 - ▶ The western, central, and eastern parts of the plateau are known as the **Garo Hills, the Khasi-Jaintia Hills and the Mikir Hills**. **Shillong** is the highest point of the plateau.
- **The Deccan Plateau**
- ▶ This is the **largest unit of the Peninsular Plateau** of India covering an area of about five lakh sq km.
 - ▶ This triangular plateau is bounded by the **Satpura and the Vindhya in the north-west**, the **Mahadev and the Maikal in the north**, the **Western Ghats in the west**, and the **Eastern Ghats in the east**.
 - ▶ Its general slope is **from west to east** which is indicated by the flow of its major rivers like the **Mahanadi, the Godavari, the Krishna, and the Cauvery**.
 - ▶ These rivers have further subdivided this plateau into several smaller plateaus described as under:
 - ▶ **The Maharashtra Plateau** lies in Maharashtra and forms the **northern part of the Deccan Plateau**.
 - ▶ Most of the region is underlain by **basaltic rocks of lava origin**.
 - ▶ The area looks like a **rolling plain** due to weathering. The horizontal lava sheets have led to the formation of typical **Deccan Trap topography**.
 - ▶ The broad and shallow valleys of the **Godavari, the Bhima, and the Krishna** are flanked by flat-topped steep-sided hills and ridges.
 - ▶ The **Ajanta range** lies to the **south of the Tapi River**. The entire area is covered by **black cotton soil known as regur**.
 - ▶ **The Karnataka Plateau** also known as the **Mysore plateau** lies to the south of the Maharashtra plateau.
 - ▶ Made up primarily of **the Archaean formations**, it is a rolling country with an average elevation of 600-900 m.

- ▶ It is **highly dissected** by numerous rivers rising from the **Western Ghats**. It contains the heads of the **Tungabhadra and the Cauvery rivers**.
 - ▶ The general trend of the hills is either parallel to the Western Ghats or athwart it. The highest peak (1913 m) is at **Mulangiri in Baba Budan Hills in Chikmagalur district**.
 - ▶ The plateau is divided into two parts called **Malnad and Maidan**.
 - ▶ The Malnad in Kannada means the **hill country**. It is dissected into deep valleys covered with dense forests.
 - ▶ The Maidan on the other hand is formed of **rolling plain with low granite hills**. The plateau tapers between the Western Ghats and the Eastern Ghats in the south and merges with the **Niligiri hills there**.
 - ▶ The **Telangana plateau in Andhra Pradesh** consists of **Archaean gneisses** at an average elevation of 500-600 m.
 - ▶ The **southern part is higher than its northern counterpart**.
 - ▶ The region is drained by three river systems, the **Godavari, the Krishna, and the Penneru**.
 - ▶ The entire plateau is divided into two major physiographic regions, namely, the **Ghats and the Peneplains**.
- **The Chhattisgarh Plain**
- ▶ The **Chhattisgarh plain** is the only plain worth the name in the vast stretch of plateaus and hill ranges of the peninsular plateau.
 - ▶ It is a **saucer-shaped depression** drained by the **upper basin of the Mahanadi**.
 - ▶ The whole basin lies between the **Maikala Range and the Odisha hills**.
 - ▶ The region was once ruled by **Haithaivanshi Rajputs** from whose **thirty-six forts (Chhattisgarh)** it derives its name.
 - ▶ The basin is laid with nearly horizontal beds of **limestone and shales** deposited during the **Cuddapah age**.

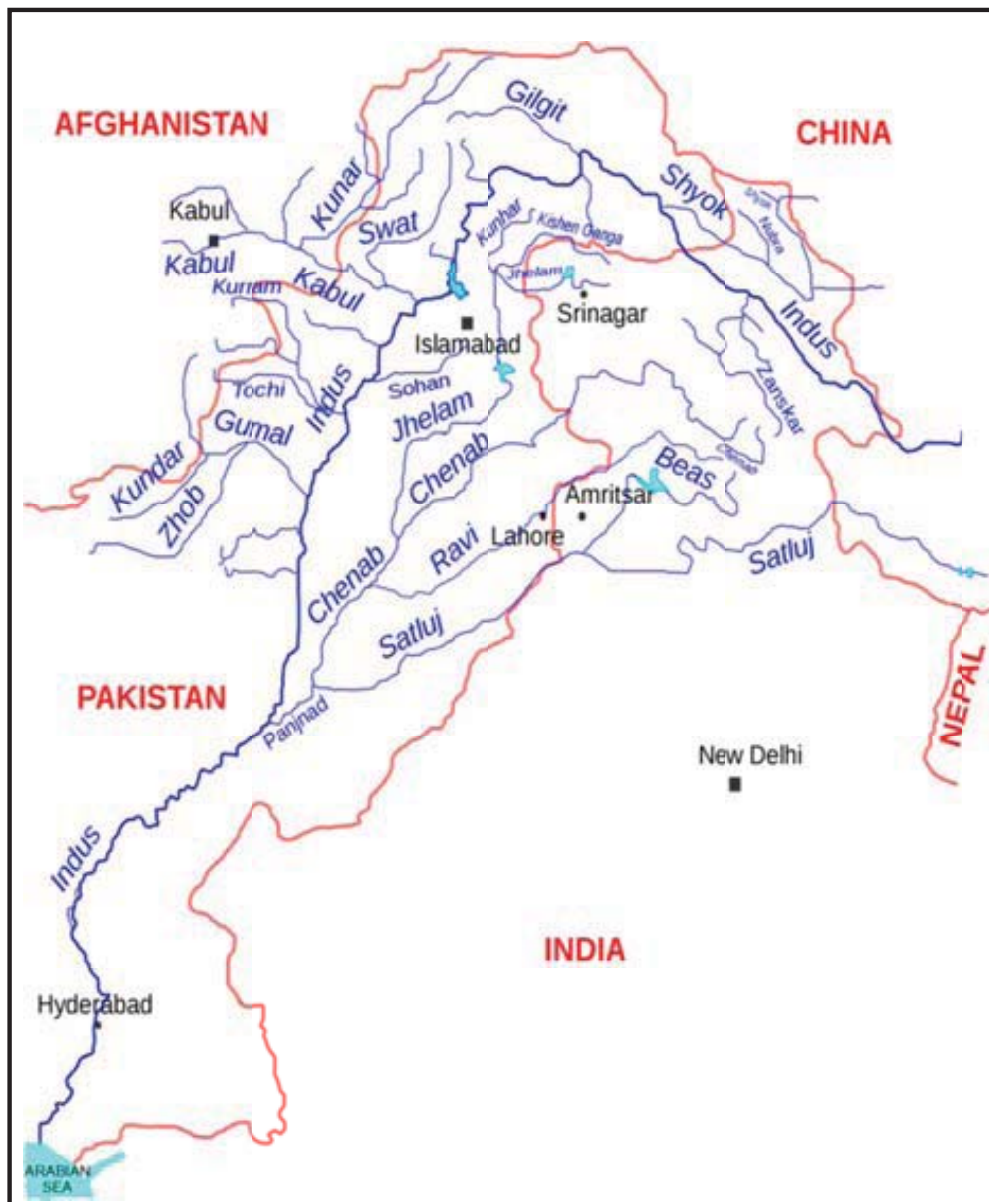


INDIAN RIVER SYSTEM

The drainage systems of India are mainly controlled by the broad relief features of the subcontinent. Accordingly, the Indian rivers are divided into two major groups:

- The Himalayan Rivers; and
- The Peninsular Rivers.

Himalayan Drainage System



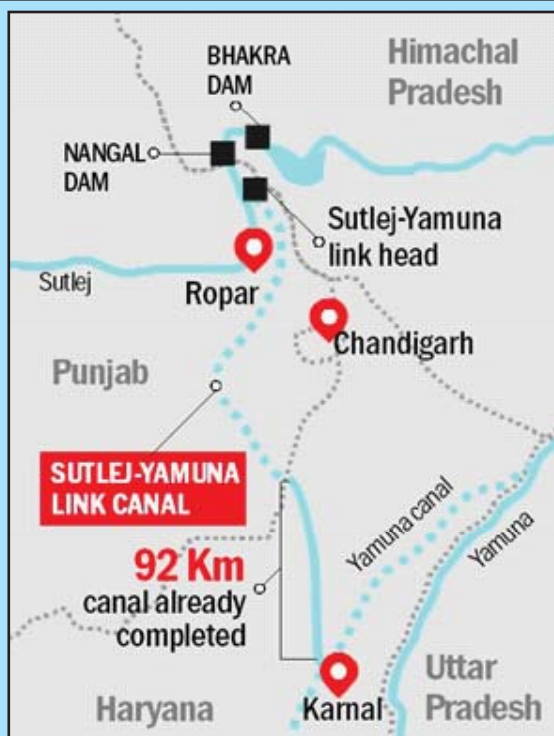
Important Facts

- **The Jhelum**, an important tributary of the Indus, rises from a spring at **Verinag** situated at the foot of the **Pir Panjal** in the south-eastern part of the valley of Kashmir. It flows through **Srinagar** and the **Wular Lake** before entering Pakistan through a deep narrow gorge.
- **The Chenab** is the **largest tributary** of the Indus. It is formed by two streams, the **Chandra** and the **Bhaga**, which join at **Tandi near Keylong** in Himachal Pradesh. Hence, it is also known as **Chandrabhaga**.
- **The Ravi** is another important tributary of the Indus. It rises west of the **Rohtang pass** in the **Kullu hills** of Himachal Pradesh and flows through the **Chamba valley** of the state.
- **The Beas** is another important tributary of the Indus, originating from the **Beas Kund** near the **Rohtang Pass**
- **The Satluj** originates in the **Rakas Lake near Mansarovar** in Tibet where it is known as **Langchen Khambab**. It flows almost parallel to the Indus before entering India, and comes out of a **gorge at Rupar**.

IN NEWS

Sutlej-Yamuna Link

- The **Sutlej-Yamuna Link (SYL)** is a proposed 211-kilometre canal.
- It would connect the Sutlej River in Punjab with the Yamuna River in Haryana, providing Haryana with a share of the water from the Ravi and Beas rivers that flow through Punjab.
- The SYL canal project was proposed following the **Indus Water Treaty in 1960** between India and Pakistan, which granted India 'free and unrestricted use' of the **Ravi, Beas, and Sutlej rivers**.
- The **Sutlej-Yamuna Link canal** was planned in 1966 when Haryana was separated from Punjab.
- In 1976, the Government of India approved the construction of the canal.
- **The Controversy Around SYL** is over the issue of water rights and allocation of water from the Sutlej and Yamuna rivers.



Devika Rejuvenation Project in J & K

- The project was compared with the 'Namami Ganga' Project.
- The project was launched in 2019 in Jammu & Kashmir.
- The project gets funded under the National River Conservation Plan (NRCP).

About Devika River

- The Devika river holds great religious significance.
- It is revered by Hindus as the **sister of the river Ganga**.
- Devika is also known as **Gupt Ganga**.
- The river also got mentioned in the NilmatPuran written in the 7th century by Nela Muni
- **Origin:** The river originates near **SuddhaMahadev Temple** in Udhampur, Jammu.
- At Venisung it merges with Tawi River.
- **Tawi** flows through Jammu and is a major left-bank tributary of the river Chenab.
- At this confluence, a fair is organised on the eve of Baisakhi every year.

Indus River System

◦ Originates

- ▶ The Indus originates in the Kailash range in Tibet near Lake Manasarovar.
- ▶ It follows a north-westerly course through Tibet.
- ▶ In Tibet, it is known as 'Singi Khamban; or Lion's mouth.
- ▶ It enters Indian Territory in Jammu and Kashmir.
- ▶ It forms a picturesque gorge in this part.

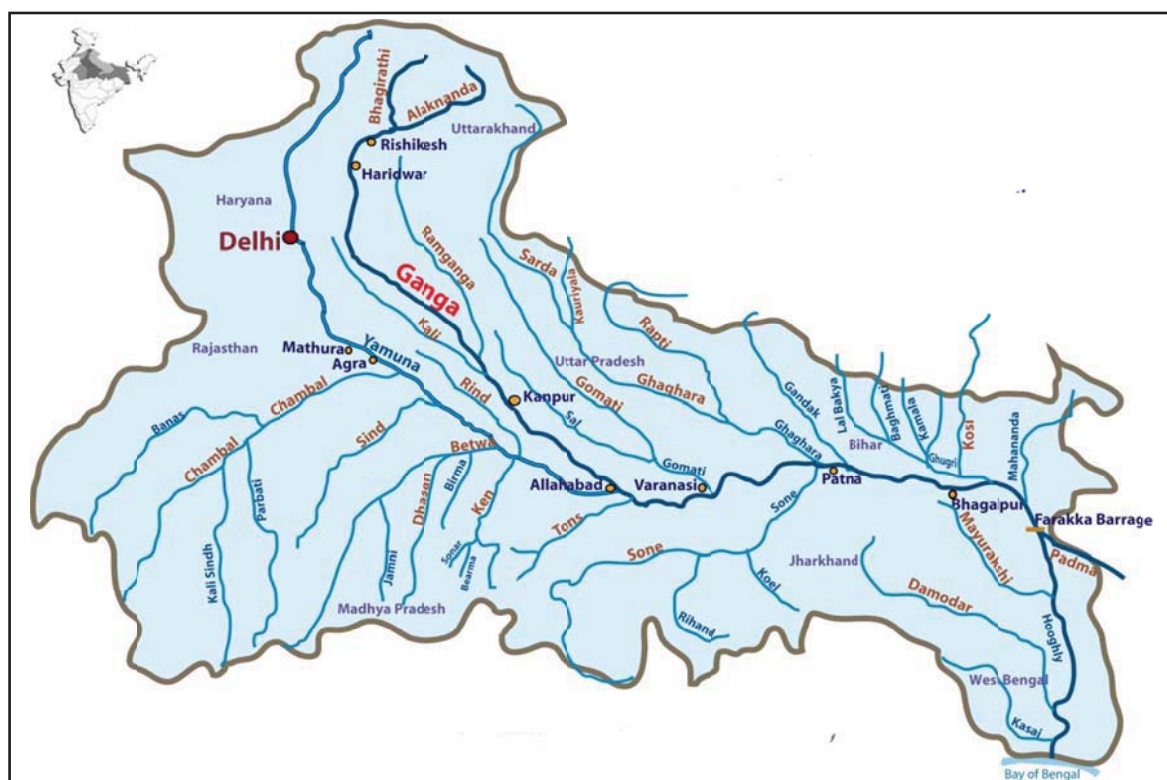
◦ Several tributaries

- ▶ The Zaskar, the Shyok, the Nubra and the Hunza join it in the Kashmir region. The other important tributaries joining the right bank of the Indus are the Khurram, the Tochi, the Gomal, the Viboa and the Sangar.

◦ Regions

- ▶ It flows through the regions of Ladakh, Baltistan and Gilgit and runs between the Ladakh Range and the Zaskar Range.
- ▶ It has a large number of tributaries in both India and Pakistan and has a total length of about 2880 km from the source to the point near Karachi where it falls into the Arabian Sea.
- ▶ The river flows southward and receives 'Panjnad' a little above Mithankot. The Panjnad is the name given to the five rivers of Punjab, namely the Satluj, the Beas, the Ravi, the Chenab and the Jhelum.
- ▶ The principal rivers of the Indus River system are snow-fed.
- ▶ The Indus and its tributaries receive all their waters in the hilly upper parts of their catchments.
- ▶ The Indus flows in India only through the Leh district in Jammu and Kashmir.

The Ganga River System



- The Ganga is the most important river of India both from the point of view of its basin and cultural significance.

◦ Originates

- ▶ It rises in the Gangotri glacier near Gaumukh (3,900 m) in the Uttarkashi district of Uttarakhand. Here, it is known as the Bhagirathi.
- ▶ At Devprayag, the Bhagirathi meets the Alaknanda; hereafter, it is known as the Ganga.

- ▶ **The Alaknanda** has its source in the **Satopanth glacier** above Badrinath.
- ▶ The Alaknanda consists of the **Dhaul** and the **Vishnu Ganga** which meet at Joshimath or Vishnu Prayag.
- ▶ The Ganga enters the plains at **Haridwar**.
- ▶ From here, it flows first to the **south**, then to the **south-east and east before splitting into two distributaries, namely the Bhagirathi and the Hugli**.
- **Regions**
 - ▶ It is shared by **Uttarakhand (110 km)** and **Uttar Pradesh (1,450 km)**, **Bihar (445 km)** and **West Bengal (520 km)**.
- **Tributaries**
 - ▶ **Son** is its **major right bank** tributary. The **important left bank tributaries** are the **Ramganga, the Gomati, the Ghaghara, the Gandak, the Kosi and the Mahananda**. The river finally discharges itself into the **Bay of Bengal near the Sagar Island**.
 - ▶ **The Yamuna**, the **western most** and the **longest tributary** of the Ganga, has its source in the **Yamunotri glacier** on the western slopes of **Banderpunch range (6,316 km)**. It joins the **Ganga at Prayag (Allahabad)**.
 - ▶ It is joined by the **Chambal, the Sind, the Betwa and the Ken** on its **right bank** which originates from the **Peninsular plateau** while the **Hindan, the Rind, the Sengar, the Varuna**, etc. join it on its **left bank**.

IN NEWS

KEN-BETWA LINK PROJECT AUTHORITY (KBLPA)

- **Centre has constituted a KBLPA and a national steering committee for interlinking the two rivers.**
 - KBLPA has been constituted as a vertical of National Water Development Agency.
 - It will comprise of secretaries from ministries of environment, power and tribal affairs.
 - All central funds for the project will be routed through KBLPA.
 - It will be chaired by Jal Shakti Ministry secretary.
 - This project involves transfer of water from the Ken river to the Betwa River.
-
- **The Gandak** comprises two streams, namely **Kaligandak and Trishulganga**.
 - ▶ It rises in the Nepal Himalayas between the **Dhaulagiri and Mount Everest** and drains the central part of Nepal.
 - ▶ It enters the **Ganga plain in Champaran district of Bihar** and joins the Ganga at **Sonpur near Patna**.
 - **The Ghaghara** originates in the **glaciers of Mapchachungo**.
 - ▶ After collecting the waters of its tributaries – **Tila, Seti and Beri**, it comes out of the mountain, cutting a **deep gorge at Shishapani**.
 - ▶ The **river Sarda** (Kali or Kali Ganga) joins it in the plain before it finally meets the **Ganga at Chhapra**.
 - **The Kosi** is an antecedent river with its **source to the north of Mount Everest in Tibet**, where its **main stream Arun rises**. After crossing the Central Himalayas in Nepal, it is joined by the **Son Kosi** from the **West** and the **Tamur Kosi from the east**.
 - ▶ It forms **Sapt Kosi** after uniting with the river **Arun**.
 - **The Ramganga** is comparatively a small river rising in the **Garhwal hills near Gairsain**.
 - **The Damodar** occupies the **eastern margins** of the **Chotanagpur Plateau** where it flows through a rift valley and finally joins the **Hugli**. **The Barakar** is its main tributary. Once known as the '**sorrow of Bengal**', the Damodar has been now tamed by the **Damodar Valley Corporation, a multipurpose project**.
 - The **Sarda or Saryu River** rises in the **Milam glacier** in the Nepal Himalayas where it is known as the **Goriganga**. Along the Indo-Nepal border, it is called **Kali or Chauk**, where it joins the **Ghaghara**.
 - **The Mahananda** is another important tributary of the Ganga rising in the **Darjiling hills**. It joins the Ganga as its **last left bank tributary** in West Bengal. **The Son** is a large **south bank** tributary of the Ganga, originating in the **Amarkantak plateau**.

Brahmaputra River System



- The river Brahmaputra originates in **Himalayan Lake Manasarovar** in Tibet to the **outfall in the Bay of Bengal**.
- It flows **eastward in Tibet and south, south-west in India**.
- In the **upper reaches**, the river is **fed by the glaciers** and in the **lower reaches**, it is joined by a **number of tributaries** which originates at different elevation in the hills encircling the catchment, forming watershed.
- Among the tributaries **Subansiri, Manas, Jiabharali, Pagladiya, Puthimari and Sankosh**, etc. is snow fed.
- The Tibetan name of river is **“TSANGPO”** and Chinese name is **“YALUZANGBU”**.
- Its name also changes from **“TSANGPO” to Siang and Dehang in Arunachal Pradesh**.
- Before touching plains it is joined by two major Himalayan tributaries viz. **Lohit and Debang**.
- The combined flow of these rivers is known as the Brahmaputra and passes through the plains of Assam and Bangladesh before falling into the Bay of Bengal.
- **From Passighat to Dhubri** where it travels in plains of Assam is well known as **Brahmaputra valley**.
- The **important tributaries of River Brahmaputra** are:
 - ▶ **Left bank tributaries:** Dhansiri, Kapili, Barak.
 - ▶ **Right bank tributaries:** Subansiri, Jia Bhoracli, Manas, Sankosh, Tista & Raidak
 - ▶ **Dhansiri:** Rises from Naga Hills.
 - ▶ **Sankosh:** It's the main river of Bhutan, meets Brahmaputra at Dhubri, Assam.
 - ▶ **Manas:** Rises from Tibet and joins Brahmaputra on its right bank.
 - ▶ **Subansiri:** It is flows in between the Mikir hills & Abor hills and later joins Brahmaputra on its right bank.
 - ▶ **Tista:** Rises from Kanchan-junga, fed by the tributaries like Rangit & Rangpo, it joins the Brahmaputra river in Bangladesh.
 - ▶ **Barak:** Rises in Nagaland. It enters Bangladesh as River Surma which falls into River Padma at Chandpur.

Drainage System of Peninsular India

Origin of Peninsular Drainage

- Subsidence of western flank of peninsula during early tertiary period. It has disturbed the symmetry of peninsular block's river watershed.
- Upheaval of the Himalayas when the northern flank of peninsular block was subjected to subsidence and consequent trough faulting. The Narmada and Tapi flow in trough faults and fill the original cracks with detritus materials. Hence there is lack of alluvial and deltaic deposits in these rivers.
- Slight tilting of peninsular block from North-West to South-East has caused entire drainage system to flow towards Bay of Bengal.
- Types of Peninsular River System (On the basis of direction of flow)
 - ▶ West flowing rivers
 - ▶ East flowing rivers

West Flowing Rivers

Narmada

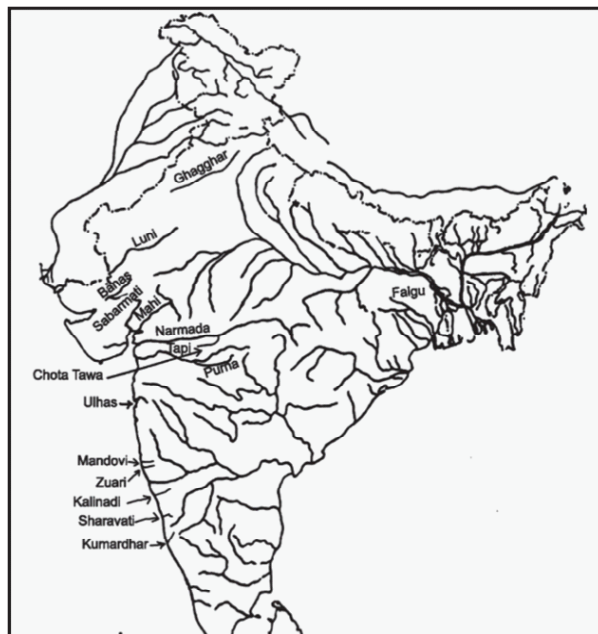
- **Origin** – Amarkantak plateau (1,057m) (Shahdol district, Madhya Pradesh)
- **Total Length**– 1,310 km (largest west flowing river) Only 112 km navigable from mouth.
- Flows 1,078 km in Madhya Pradesh. Forms 32 km long boundary between M.P and Maharashtra.
- Forms 40 km long boundary between Maharashtra & Gujarat Flows 160 km in Gujarat
- Makes an estuary before entering into Gulf of Khambhat.
- There are several islands in estuary formed by Narmada. Aliabet is an important estuary island.
- **States** – M.P., Maharashtra, Gujarat
- **Landmarks** – Dhuandhar falls also called cloud of mist (30m) located in Jabalpur district, Madhya Pradesh. This fall is located in a Gorge of marble.
- Other falls- Mandhar falls (12m) Dardi fall (12m) Sahasradhara falls (8m)

Tapi (or Tapti)

- **Origin** – Betul plateau (M.P) in Satpura Range

- **Total length** – 730 km (32 km from sea)
- **State** – M.P, Maharashtra & Gujarat
- **Meets**- Arabian Sea at Gulf of Khambhat

Sabarmati



- Sabarmati River is formed by confluence of **Sabar and Hathmati streams**
- **Origin** – Mewar hills (Aravali range) (Rajasthan)
- **Length** – 320 km
- **Mouth** – Gulf of Khambhat
- **States** – Rajasthan & Gujarat
- **Tributaries** – The Sedhi, The Harnav, the Vartak, the Wakul, The Meshwa

Mahi

- **Origin** – Vindhyas (500 m)
- **Meeting point** – Gulf of Khambhat
- **States** – Madhya Pradesh, Maharashtra & Gujarat
- **Length** – 533 km
- **Tributaries** – Som, Anas and Panam

Luni

- Also known as '**Sagarmati**'
- It flows through '**Thar Desert**'
- It has an **Inland Drainage** as it disappears into Marshy land of Rann of Kutch

- **Origin** – Aravalli (west of Ajmer, Rajasthan)
- **Length** – 482 km
- **Meeting point** – Lost into Marshy land of Rann of Kutch (Inland drainage)

Mahadayi River

- Mahadayi or Mhadei, the **west-flowing river**, **originates in Bhimgad Wildlife Sanctuary (Western Ghats)**, Belagavi district of **Karnataka**.



- It is essentially a **rain-fed river and known as Mandovi** in Goa.
- It is joined by a number of streams to form the Mandovi which is one of two major rivers (the other one is Zuari river) that flows through Goa.
- The river travels 35 km in Karnataka; 82 km in Goa before joining the Arabian Sea.
- **Goa and Karnataka** have had long disputes over **water sharing issues of the Mhadei river**.

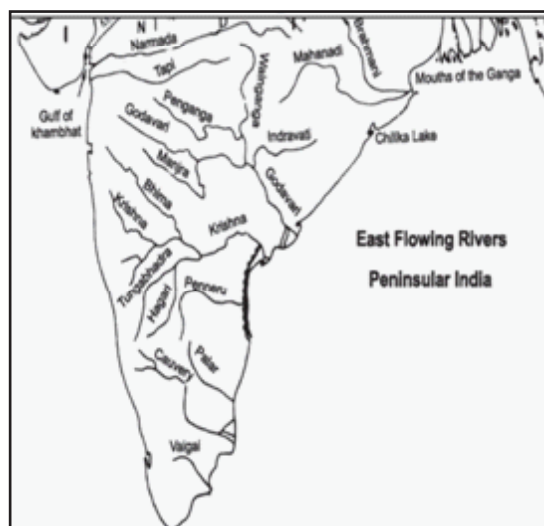
Kalasa-Banduri project

- Centre has given approval for implementation of Kalasa-Banduri canal construction project.
- The project proposes to divert water from two tributaries of the Mahadayi river (also known as Mandovi): Kalasa and Banduri to the Malaprabha river.
- Entire project aims to construct several dams on the river Mandovi.
- Aimed at facilitating drinking water for towns in drought-hit northern Karnataka.

East Flowing Rivers

Subarnrekha

- **Origin** – Ranchi plateau
- **Length** – 474 km



- **Tributaries** –Baitarni & Brahmani
- It flows in States of **Jharkhand and Odisha**

Mahanadi

- **Origin** – Dandakaranya (near Sihawa, Raipur, Chhattisgarh)
- **Length** – 857 km States –
- It flows in **Chhattisgarh and Odisha**.
- It forms delta of about 9,500 km sq.

In News

- The National Green Tribunal (NGT) has directed the Odisha government to revive a dead river 'Sukapaika River' in next six months by earmarking a dedicated fund for the purpose.
- Sukapaika River is a dead river, originates from **Mahanadi River**.
- It traverses a length of 27.50KM and then falls at Bankala in the same Mahanadi River.
- It covers three blocks such as Cuttack Sadar, Raghunathpur and Nichintakoili of Cuttack.
- The mouth of the river was closed during the year 1950 for development of Taladanda Canal System and for flood protection in the delta of Sukapaika.

Rushikulya River

- **Origin** – Nayagarh hills (Odisha)
- **Length** – 165 km
- **States** – Its flows in Odisha
- It flows near Chilka lake (largest brackish water lake of Asia)

- Mouth of Rushikulya River is known for mass hatching of olive ridley turtles. This is smallest and most abundant of all sea turtles found in the world.
- Olive Ridley turtles are only found in tropical waters of Pacific, Atlantic and Indian Ocean.

Godavari River

- **Origin** – Trimbak plateau (Nashik, Maharashtra)
- **Length** – 1,465 km States – Maharashtra, Andhra Pradesh, Telangana
- It is **second largest river** of India and largest river system of Peninsular India
- It is also called **Gautami or Virdhha Ganga**

Krishna River

- **Origin** – Western Ghats just north of Mahabaleshwar (Maharashtra)
- **Length** – 1400 km
- **State** – Maharashtra, Telangana, Karnataka, Andhra Pradesh

Penneru River

- **Origin** – Nandidurg Peak (Karnataka)
- **Length** – 597 km

- **State** – Karnataka and Andhra Pradesh
- **Tributaries**-Kundur, Charavati, Papagni, Punchu

Kaveri River

- **Origin** – Taal Kaveri (Bramhagiri Range, Western Ghats, near Bengaluru, Karnataka)
- **Length** – 800 km
- **States** – Karnataka, Tamil Nadu
- It receives rainfall from both **South-West monsoon** as well as **retreating north-east monsoon** due to which it causes flood in its lower course during winter.
- One of the most well utilized rivers having 90-95% capacity utilized.
- Forms delta before merging into Bay of Bengal.
- **Sivasamudram waterfalls** (101 m high) are situated on it.

Vaigai River

- **Origin** – Varusanadu hills (near Annamalai hills & Palni hills)
- **Length** – 258 km
- **State** – Tamil Nadu
- It is a **dry channel** which reappears and disappears frequently.
- **Madurai** is located on Vaigai river

Difference between Himalayan and Peninsular Rivers

| Characteristics | Himalayan | Peninsular |
|---------------------------------------|---|--|
| Origin | Himalayas | Peninsular highlands |
| Regime and Flow | Perennial and lesser fluctuations | Seasonal and Higher regime fluctuations |
| Stages of life | Mostly in their Youth stage | Most of the rivers are in the mature to the old stage |
| Geographic features | Erosional features like V-shaped valley, meanders are formed. Depositional features like Deltas are formed | Erosional features are U shaped Valley. Meanders are generally absent. Depositional features are Deltas of Godavari, Krishna and Estuaries of Narmada, Tapi |
| Geomorphic characteristics | Bedrocks of Himalayan rivers are soft, sedimentary and easily erodible. | Bedrocks of peninsular rivers are Hard, resistant and not susceptible to erosion |
| Drainage Basin characteristics | Large basins, Antecedent river systems | Relatively smaller basins and subsequent, Superimposed drainage system |
| Impact of climate change | Himalayan river system would be affected by climate change. Initially the flow would be higher due to increased melting of snow and ice. However, later it would reduce when the glaciers recede. | Peninsular river system may have greater variations in water availability. Impact of climate change on Monsoons and precipitation levels would affect these river systems. |

INDIAN SOILS

Definition of Soil

- Soil can be defined as **the solid material on the Earth's surface** that results from the **interaction of weathering and biological activity** on the parent material or underlying hard rock.
- The naturally occurring soil is influenced by **parent material, climate, relief, and the physical, chemical and biological agents (micro-organisms)** in it.
- A soil is made up of four elements: **inorganic fraction (derived from the parent material), organic material, air and water**. The abundance of each component and its importance in the functioning of the soil system vary from horizon to horizon and from one soil to another.

What are the characteristics of Soil?

Soil Texture

- Soil texture is a term used to describe the distribution of the **different sizes of mineral particles in a soil**.
- Textures range from **clay, sand, and silt** at the extremes, to a loam which has all three sized fractions present.
- The main influence of texture is on **permeability** which generally **decreases with decreasing particle size**.
- A **clayey soil** may thus be described as **fine**, a **sandy soil** as **course**, while a **silty soil** is **intermediate**.

Soil Air

- The air content of a soil is vital, both to itself and to organic life within it. A certain amount of air is contained between the individual particles except for the waterlogged soils.
- The air in the soil helps in the **process of oxidation** which converts part of the **organic material into nitrogen** in a form readily available to the plants.

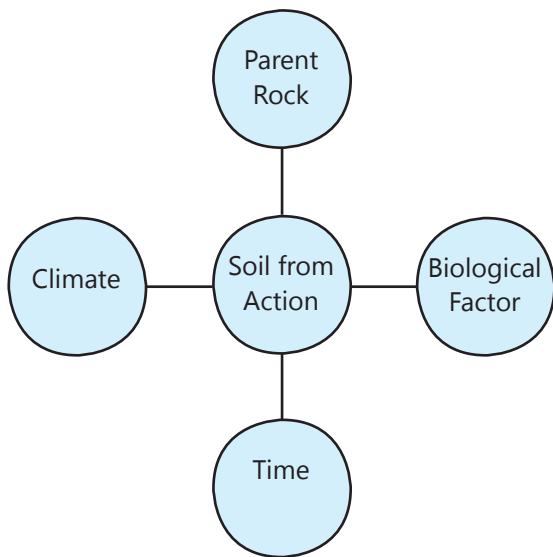
Soil water

- Depending on the texture of the soil, water **moves downward by percolation**.
- The amount of **water in the soil varies from almost nil in arid climates** which makes life virtually impossible for organisms, to a state of **complete water logging which excludes all air**, causes a reduction of bacteriological activity, and limits decomposition.
- In damp climates**, especially in high latitudes where the evaporation rate is low, **water tends to move predominantly downward**, particularly in **coarse-grained sandy soils**.
- This dissolves the soluble minerals in the soil, together with soluble humus material and carries both downward, a process called leaching or eluviations.
- A **typical leached soil is known as podzol**, a Russian word meaning ash because the surface layer is often **greyish or ash-coloured**. In a hot, arid climate, evaporation exceeds precipitation for greater part of the year, so the water tends to move upward and the soil dries out.
- Consequently, in some areas, a thin salty layer is formed on the surface. This process of **Salinization**.

Soil color

- Generally, soil color is determined by the amount of **organic matter** and the state of the **iron**.
- Soil color is also related to **soil drainage, with free draining, well AERATED soils** (with pore space dominated by oxygen) having rich brown colors.
- In contrast, poorly draining soils often referred to as **gleys**, develop under **ANAEROBIC conditions** (the pore space dominated by water) and have grey or blue-grey colors.
- Such colors are the result of **oxidation-reduction**; iron is the main substance affected by these processes.
- If the iron is released in an anaerobic environment, then it stays in the reduced state giving it the **grey blue color** of waterlogged soils.

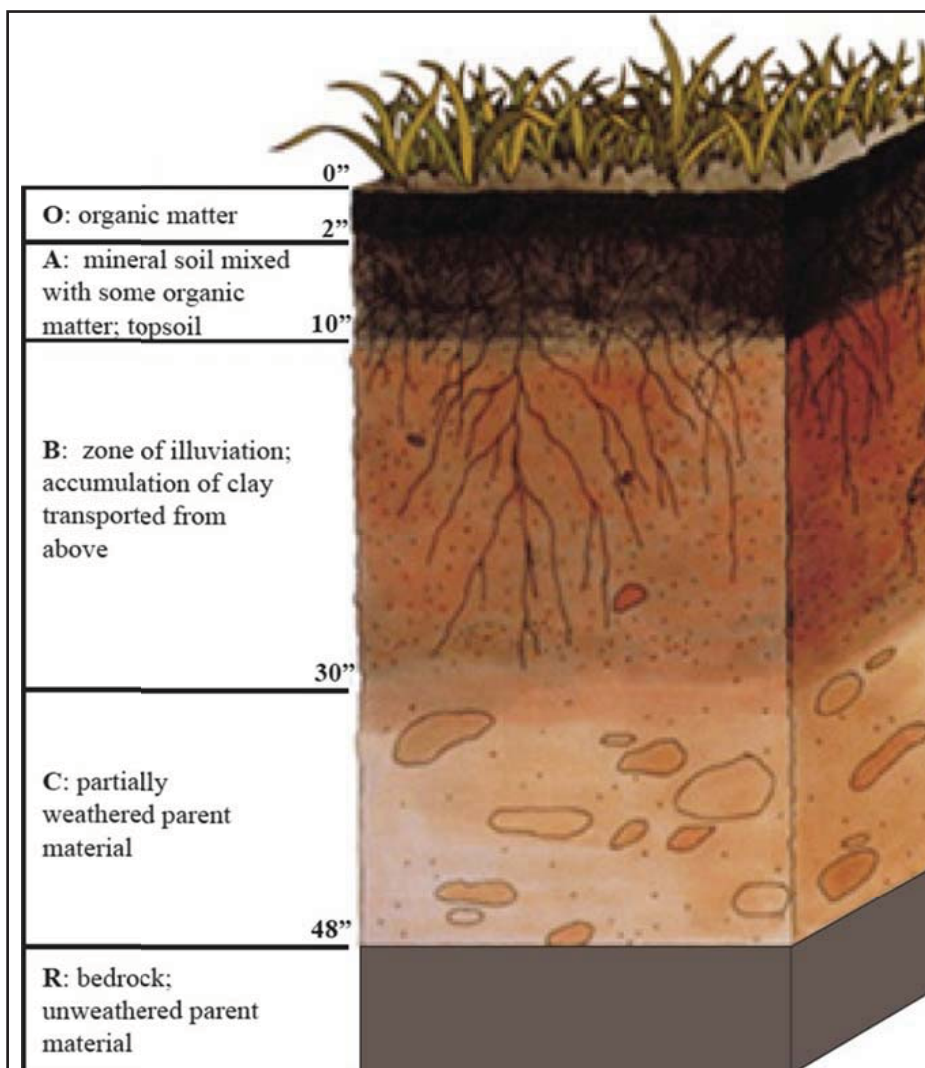
Factors Responsible for Soil Formation



Soil formation is the combined effect of physical, chemical, biological, and anthropogenic processes on soil parent material.

Parent material

- This is the material from which the soil has developed and can vary from solid rock to deposits like alluvium and boulder clay. It has been defined as '**the initial state of the soil system**'.
- The parent material can influence the soil in a number of ways: **color; texture; structure; mineral composition and permeability/drainage**.
- Soil may form directly by the **weathering of consolidated rock in situ** (a residual soil), saprolite (weathered rock), or it may develop on **superficial deposits**, which may have been transported by ice, water, wind or gravity.
- These deposits originated ultimately from the **denudation and geologic erosion** of consolidated rock.
- Consolidated material is not strictly parent material, but serves as a source of parent material after some physical and /or chemical weathering has taken place.
- Soils may form also on **organic sediments** (peat, muck) or **salts** (evaporates).
- The **chemical and mineralogical compositions** of parent material determine the **effectiveness of the weathering forces**.



Climate

- Temperature varies with **latitude and altitude**, and the **extent of absorption and reflection** of solar radiation by the atmosphere.
- Solar radiation (direct radiation and diffuse radiation) **increases** with **elevation**, **differs seasonally**, and is influenced by **cloud cover or other atmospheric disturbance** (e.g. air pollution).
- The absorption of the solar radiation at the soil surface is affected by many variables such as **soil color**, **vegetation cover**, and **aspect**.
- In general, the **darker the soil color**, the **more radiation is absorbed** and the **lower the albedo**.
- The **effect of vegetative cover** on absorption varies with density, height, and color of the vegetation.
- Hence the absorption differs in areas with deciduous trees (soil surface is shaded by trees most of the year) and arable land (soil surface is not shaded throughout the year).
- Light, or whitish-colored, soil surfaces tend to **reflect more radiation**. When incoming solar radiation is reflected, there is less net radiation to be absorbed and heat the soil.
- Snow is especially effective in **reflecting the incoming solar radiation**.
- Temperature affects the **rate of mineral weathering and synthesis**, and the **biological processes of growth and decomposition**.
- Weathering is intensified by **high temperatures**; hence weathering is stronger in the tropics than in humid regions.
- Biological processes are intensified by rising temperatures.
- Reaction rates are roughly doubled for each 10°C rise in temperature, although enzyme-catalyzed reactions are sensitive to high temperatures and usually attain a maximum between 30° and 35°C.

Biological Factors

The soil and the organisms living on and in it comprise an ecosystem. The active components of the soil ecosystem are the **vegetation, fauna, including microorganisms, and man**.

a. Vegetation

- The primary succession of plants that colonize a weathering rock culminates in the development of a **climax community**, the species composition of which depends on the **climate and parent material**, but

which, in turn, has a profound influence on the soil that is formed.

- Deciduous forest seems to **accelerate soil formation** compared to grassland on the same parent material under similar climatic conditions.

b. Meso-/Macrofauna

- Earthworms are the **most important of the soil forming fauna in temperate regions**, being supported to a variable extent by the small arthropods and the larger burrowing animals (rabbits, moles).
- Earthworms are also **important in tropical soils**, but in general the activities of **termites, ants, and beetles** are of greater significance, particularly in the sub humid to semi-arid savannah of Africa and Asia.

c. Micro-organisms

- The organic matter of the soil is colonized by a variety of soil organisms, most importantly the micro-organisms, which derive energy for growth from the oxidative decomposition of complex organic molecules.
- During decomposition, essential elements are converted from **organic combination to simple inorganic forms (mineralization)**.
- Types of micro-organisms comprise **bacteria, actinomycetes, fungi, algae, protozoa, and soil enzymes**.

d. Man

- Man is perhaps now the **most influential of all organisms**. He affects the soil by such activities as: ploughing, irrigating, mining, clearing, disposing and leveling.

Time

- Time is a factor in the interactions of all the above factors as they develop soil.
- Over time, soils evolve features dependent on the other forming factors, and soil formation is a **time-responsive process** dependent on how the other factors interplay with each other.

Relief

- Relief is not static; it is a dynamic system (its study is called geomorphology). Relief influences soil formation in several ways:

- It influences soil profile thickness i.e. as angle of slope increases so does the erosion hazard. Gradient affects run-off, percolation and mass movement.
- It influences aspect which creates microclimatic conditions

Stages of Soil Formation

Soil formation is a **long slow process**. It's estimated that an inch of soil takes 500 to 1000 years to form. Soil is constantly being formed.

Stage One

- This is the **rock pulverizing stage**. Here the forces of wind, rain, freezing and thawing water, earthquakes, volcanoes all work to slowly pulverize rocks into smaller particles that can make up a soil. **At the end of this stage a combination of sand, silt and clay sized particles forms**. These form a mineral soil like substance but are unable to support life.
- They are **missing nitrogen**. It may seem nitrogen should be the least of a being's worries. After all the air we breathe is made up of about 78% nitrogen. The problem is that plants cannot use nitrogen in this form. For them it needs to be converted to either ammonia which is a combination of nitrogen and hydrogen or nitrates - a combination of nitrogen and oxygen.

Stage Two

- This is the early stage of soil formation. Here life is added specifically by lichens.
- **Lichens are a symbiotic relationship of algae and fungus**. The algae have the very important role of fixing the nitrogen, changing it from nitrogen gas to a form, the plant can use. It also captures the sunlight and creates sugars and oxygen. The fungus provides a place for the algae to live, along with water and the mineral nutrients it needs.

Stage Three

- At this time the little pockets of soil have formed to the extent that some larger plants, plants with roots can have a go at growing.
- The first pioneers will be short lived but as their bodies are added to the layers of soil forming; the soil becomes more capable of supporting life. Humus builds and soil horizons begin to form.

Stage Four

- The soils are developed enough to support thick vegetation.

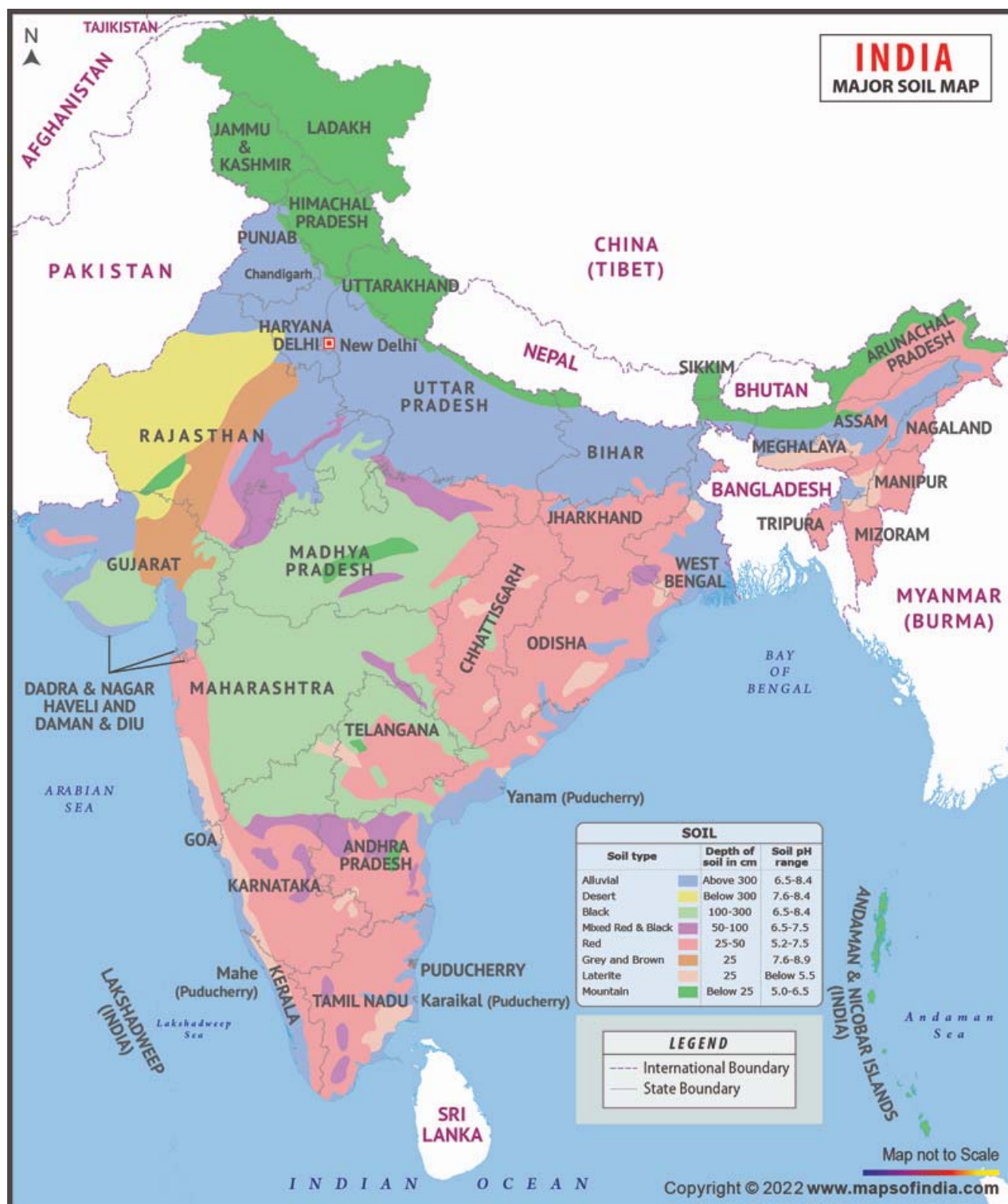
Soils of India

- The **National Bureau of Soil Survey and the Land Use Planning** an Institute under the control of the **Indian Council of Agricultural Research (ICAR)** did a lot of studies on Indian soils. [See Figure in Nex Pages]
- In their effort to study soil and to make it comparable at the international level, the ICAR has classified the Indian soils on the basis of their nature and character as per the United States Department of Agriculture (USDA) Soil Taxonomy.
- On the basis of **genesis, colour, composition and location**, the soils of India have been classified into:

Alluvial Soil



- Alluvial soils are widespread in the **northern plains and the river valleys**.
- These soils cover about **40 per cent** of the total area of the country.
- They are **depositional soils**, transported and deposited by rivers and streams.
- Through a narrow corridor in Rajasthan, they extend into the plains of Gujarat.
- In the Peninsular region, they are found in **deltas of the east coast** and in the **river valleys**.
- In the Upper and Middle Ganga plain, two different types of alluvial soils have developed, viz. **Khadar and Bhanger**.



- **Khadar** is the new alluvium and is deposited by floods annually, which enriches the soil by depositing fine silts.
- **Bhangar** represents a system of older alluvium, deposited away from the flood plains. **Both the Khadar and Bhangar soils contain calcareous concretions (Kankars).**
- These soils are **more loamy and clayey in the lower and middle Ganga plain and the Brahmaputra valley.**

- The **sand content decreases from the west to east.**
- They yield splendid of rice, **wheat, sugarcane tobacco, cotton, jute, maize, oilseeds, vegetables and fruits.**

Black Soil

- Black soil covers most of the **Deccan Plateau** which includes parts of **Maharashtra, Madhya Pradesh, Gujarat, Andhra Pradesh and some parts of Tamil Nadu.**



- In the upper reaches of the **Godavari and the Krishna**, and the north western part of the Deccan Plateau, the black soil is very deep.
- These soils are also known as the '**Regur Soil**' or the '**Black Cotton Soil**'.
- The black soils are generally **clayey, deep and impermeable**.
- They swell and become **sticky when wet and shrink when dried**.
- Chemically, the black soils are rich in **lime, iron, magnesia and alumina**.
- They also contain **potash**. But they lack in **phosphorous, nitrogen and organic matter**.
- The colour of the soil ranges **from deep black to grey**.
- **Cotton, maize, jowar, linseed, Virginia tobacco, castor, sunflower, and millets** are some of the major crops grown on the black soils.

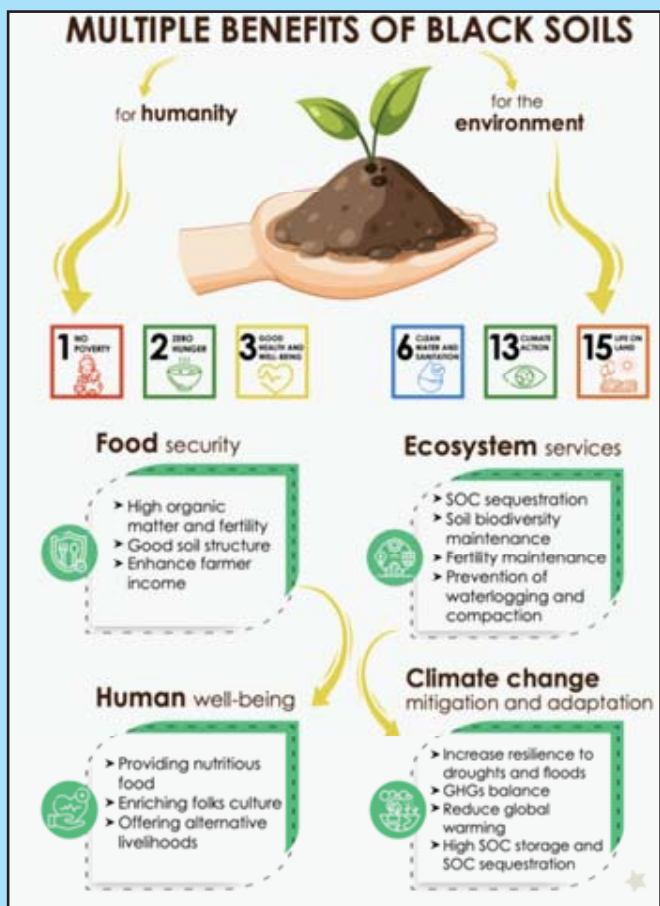
IN NEWS

Global Status Of Black Soil: Report Of Food And Agricultural Organization

- As per report, Black soils are mineral soils which have a black surface horizon, enriched with organic carbon that is at least 25 cm deep. Black colour is a result of accumulation of organic matter originating from numerous dying roots of gramineous vegetation in a process known as melanization.

Status of Black soil

- Black soils occupy 725 million hectares of the land surface and constitute 5.6 percent of global soils but contain 8.2 percent of the world's soil organic carbon (SOC) stocks.
- In India it is spread mostly across interior Gujarat, Maharashtra, Karnataka, and Madhya Pradesh on the Deccan lava plateau and the Malwa Plateau.



Red and Yellow Soil

- Red soil develops on crystalline igneous rocks in areas of **low rainfall** in the eastern and southern part of the Deccan Plateau.

- The soil develops a reddish colour due to a **wide diffusion of iron in crystalline and metamorphic rocks**. It looks yellow when it occurs in a hydrated form.

- The **fine-grained red and yellow soils are normally fertile**, whereas coarse-grained soils found in dry upland areas are poor in fertility.
- They are generally **poor in nitrogen, phosphorous and humus**.
- **Rice, wheat, sugarcane, maize/corn, groundnut, ragi** (finger millet) and potato, oil seeds, pulses, millets and fruits such as mango, orange, citrus, and vegetables can be grown under ideal irrigation.

Laterite Soil

- Laterite has been derived from the Latin word '**Later**' which means **brick**.
- The laterite soils develop in areas with **high temperature and high rainfall**.
- These are the **result of intense leaching** due to tropical rains.
- With rain, **lime and silica are leached away**, and soils **rich in iron oxide and aluminium compound are left behind**.
- **Humus content of the soil is removed fast by bacteria** that thrive well in high temperature.
- These soils are **poor in organic matter, nitrogen, phosphate and calcium, while iron oxide and potash are in excess**.
- Hence, laterites are **not suitable for cultivation**; however, application of manures and fertilizers are required for making the soils fertile for cultivation.
- Laterite soils are **widely cut as bricks for use in house construction**.

Arid Soils

- Arid soils range from **red to brown in colour**.
- They are generally **sandy in structure and saline in nature**.
- In some areas, the salt content is so high that common salt is obtained by evaporating the saline water.
- Due to the dry climate, high temperature and accelerated evaporation, they **lack moisture and humus**.
- **Nitrogen is insufficient and the phosphate content is normal**.
- Lower horizons of the soil are occupied by '**kankar**' layers because of the increasing **calcium content downwards**.

Saline Soils

- They are also known as **Usara soils**.

- Saline soils contain a larger proportion of **sodium, potassium and magnesium**, and thus, they are infertile, and **do not support any vegetative growth**.
- They have more salts, largely because of **dry climate and poor drainage**.
- They occur in **arid and semi-arid regions**, and in **waterlogged and swampy areas**.
- Their **structure ranges from sandy to loamy**.
- They **lack in nitrogen and calcium**.

Peaty Soils

- They are found in the **areas of heavy rainfall and high humidity**, where there is a good growth of vegetation.
- Thus, **large quantity of dead organic matter** accumulates in these areas, and this gives a rich humus and organic content to the soil.
- Organic matter in these soils may go even up to **40-50 per cent**.

Forest Soils

- As the name suggests, **forest soils are formed in the forest** areas where sufficient rainfall is available.
- The soils vary in **structure and texture** depending on the **mountain environment where they are formed**.
- They are **loamy and silty on valley sides and coarse-grained in the upper slopes**.
- In the snow-bound areas of the Himalayas, they **experience denudation**, and are acidic with low humus content.
- The soils found in the **lower valleys are fertile**.

Soil Degradation

- In a broad sense, soil degradation can be defined as the **decline in soil fertility**, when the nutritional status declines and depth of the soil goes down due to erosion and misuse.
- Soil degradation is **the main factor leading to the depleting soil resource** base in India.
- The degree of soil degradation varies from place to place according to the **topography, wind velocity and amount of the rainfall**.

Soil Erosion

- The **destruction of the soil cover** is described as soil erosion.

- The **soil forming processes and the erosional processes** of running water and wind go on simultaneously. But generally, there is a **balance between these two processes**.
- The rate of removal of fine particles from the surface is the same as the rate of addition of particles to the soil layer.
- Sometimes, such a balance is disturbed **by natural or human factors, leading to a greater rate of removal of soil**.
- Human activities too are responsible for soil erosion to a great extent.
- As the human population increases, the demand on the land also increases.
- Forest and other natural vegetation are removed for human settlement, for cultivation, for grazing animals and for various other needs.
- Soil erosion is **a serious problem for Indian agriculture** and its negative effects are seen in other spheres also.
- Eroded materials are **carried down to rivers** and they lower down their **carrying capacity, and cause frequent floods and damage to agricultural lands. Deforestation is one of the major causes of soil erosion**.
- Plants keep soils bound in locks of roots, and thus, prevent erosion.
- They also add humus to the soil by shedding leaves and twigs.
- Forests have been denuded practically in most parts of India but their effect on soil erosion are more in hilly parts of the country.
- Soil conservation is a **methodology to maintain soil fertility, prevent soil erosion and exhaustion, and improve the degraded condition of the soil**.
- Soil erosion is essentially aggravated by faulty practices.
- The first step in any rational solution is to check **open cultivable lands on slopes** from farming.
- Lands with a **slope gradient of 15 - 25 per cent should not be used for cultivation**.
- If at all the land is to be used for agriculture, terraces should carefully be made.
- **Over-grazing and shifting cultivation** in many parts of India have affected the natural cover of land and given rise to extensive erosion.
- It should be regulated and controlled by educating villagers about the consequences.
- **Contour bunding, Contour terracing, regulated forestry, controlled grazing, cover cropping, mixed farming and crop rotation** are some of the remedial measures which are often adopted to reduce soil erosion.
- The **Central Soil Conservation Board**, set up by the Government of India, has prepared a number of plans for soil conservation in different parts of the country.
- These plans are based on the **climatic conditions, configuration of land and the social behaviour of people**.
- Even these plans are fragmental in nature. **Integrated land use planning**, therefore, seems to be the best technique for proper soil conservation.
- Lands should be classified according to their capability; land use maps should be prepared and lands should be put to right uses.
- The final responsibility for achieving the conservation of land will rest on the people who operate on it and receive the benefits.

Soil Conservation

- Nature has its own **laws of maintaining balance**. Nature offers enough opportunities for humans to develop their economy without disturbing the ecological balance.

SEA & STRAITS

Sea

- Sea is a large body of water that is surrounded by the land.

Straits

- A strait can be defined as a narrow, navigable body of water that is located between two landmasses and serves as a connection between two large water bodies.

STRAITS

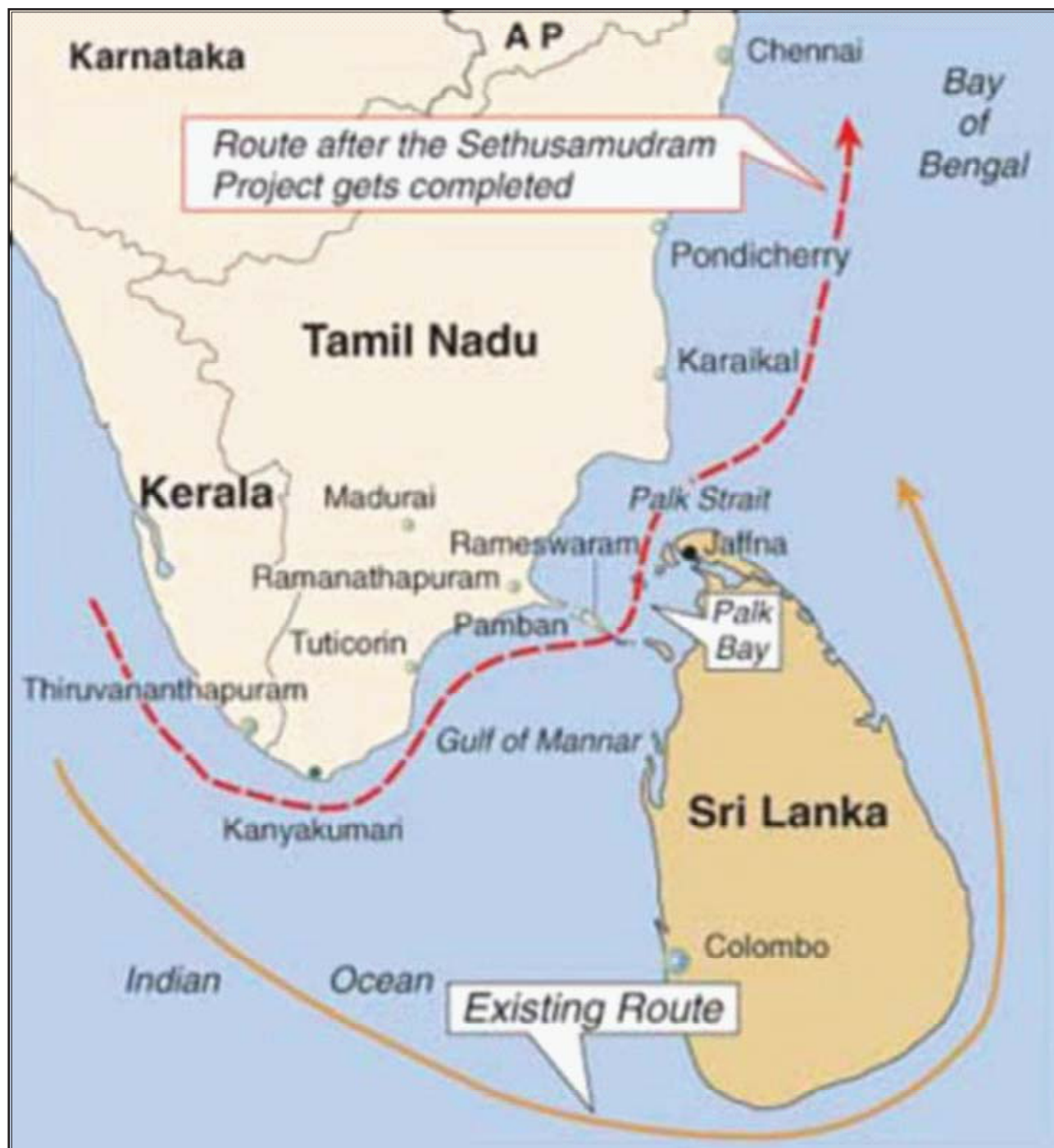
Palk Strait

- The Palk Strait is a strait between the Tamil Nadu state of India and the Jaffna District of the Northern Province of the island nation of Sri Lanka.
- Palk Strait is an inlet of the Bay of Bengal between southeastern India and northern Sri Lanka.
- It is bounded on the south by Pamban Island (India), Adam's (Rama's) Bridge (a chain of shoals), the Gulf of Mannar, and Mannar Island (Sri Lanka).
- The southwestern portion of the strait is also called Palk Bay.
- It receives several rivers, including the Vaigai (India), and it contains many islands on the Sri Lankan side.
- The port of Jaffna, the commercial centre for northern Sri Lanka, lies on the strait.
- The shoals and numerous islands long have limited transit through the strait to smaller vessels.
- In addition, periods of unrest in northern Sri Lanka have disrupted shipping across the strait between Sri Lanka and Tamil Nadu state in India.

Sunda Strait

- Sunda Strait, is 16–70 miles (26–110 km) wide channel, between the islands of Java (east) and Sumatra.
- It links the Java Sea (Pacific Ocean) with the Indian Ocean (south).
- There are several volcanic islands within the strait, the most famous of which is Krakatoa, which erupted on August 27, 1883.

- The strait was the scene of an encounter between Allied and Japanese forces in March 1942.
- The Sunda Strait is an important passage connecting the Indian Ocean with eastern Asia.



Bering Strait

- Bering Strait links the Arctic Ocean with the Bering Sea.
- It separates the continents of Asia and North America at their closest point.
- There are numerous islands in the strait, including the two Diomed Islands and to the south of the strait lies St. Lawrence Island.
- The U.S.–Russian boundary extends through the strait.



- During the Cold War, the Bering Strait marked the border between the Soviet Union and the United States.
- The Diomed Islands—Big Diomed (Russia) and Little Diomed (US)—are only 3.8 km (2.4 mi) apart.
- Traditionally, the indigenous people in the area had frequently crossed the border back and forth for “routine visits, seasonal festivals and subsistence trade”, but were prevented from doing so during the Cold War.
- The border became known as the “Ice Curtain”.

Formosa Strait

- Taiwan Strait is also called Formosa Strait.
- It lies between the coast of China’s Fukien province and the island of Taiwan (Formosa).
- The strait extends from southwest to northeast between the South and East China seas.
- The Taiwan Strait separates the island of Taiwan and continental Asia.
- It reaches a depth of about 230 feet (70 m) and contains the Pescadores Islands (which are controlled by the government of Taiwan).
- The chief ports are Amoy in mainland China and Kao-hsiung on Taiwan.
- The area lies in a typhoon zone.
- The strait was named Formosa (“Beautiful”) by Portuguese navigators in the late 16th century.



Malacca Strait

- Connects the Andaman Sea (Indian Ocean) and the South China Sea (Pacific Ocean).
- Runs between the Indonesian island of Sumatra to the west and peninsular (West) Malaysia and extreme southern Thailand to the east.
- Shortest sea route between the Middle East and East Asia, helping to reduce the time and cost of transportation among Asia, the Middle East and Europe.
- Through this corridor, approximately 60% of the world's maritime trade transits, and is the main source of oil supply for two of the main Asian consumers: the People's Republic of China and Japan.
- The Andaman and Nicobar Command (ANC) was created in 2001 to safeguard India's strategic interests in Southeast Asia and the Strait of Malacca by increasing rapid deployment of military assets in the islands.



Yucatan Strait

- The Yucatán Channel or Straits of Yucatán (Spanish: Canal de Yucatán) is a strait between Mexico and Cuba. It connects the Yucatán Basin of the Caribbean Sea with the Gulf of Mexico.
- As the water flowing through the Yucatán Channel enters the Gulf of Mexico, it passes over the Campeche Bank, a shallow area of sea.
- There are coral reefs on the outer fringes of the Yucatán shelf about 100 kilometres (62 mi) offshore.



Bosphorus Strait

- It is a natural strait connecting the Black Sea to the Sea of Marmara.

- Its length is 32 kilometers (20 miles) in the north to south direction.
- Bosphorus strait separates the European part from the Asian part of Istanbul.
- The Bosphorus and Dardanelles straits, also known as the Turkish Straits or the Black Sea Straits, connect the Aegean Sea and the Black Sea via the Sea of Marmara.
- It is the only passage through which the Black Sea ports can access the Mediterranean and beyond.
- Over three million barrels of oil, about 3% of the daily global supply, mostly produced in Russia, Azerbaijan, and Kazakhstan, pass through this waterway every day.
- The route also ships large amounts of iron, steel, and agricultural products from the Black Sea coast to Europe and the rest of the world.



Strait of Hormuz

- The strait is located at the mouth of the Persian Gulf and is crucial to global energy supplies, with about a fifth of all oil traded at sea passing through it.
- The waterway separates Iran and Oman, linking the Persian Gulf to the Gulf of Oman and the Arabian Sea.
- The Strait is 33 km wide at its narrowest point, but the shipping lane is just three km wide in either direction.
- Most crude exported from Saudi Arabia, Iran, the UAE, Kuwait and Iraq – all members of OPEC – is shipped through this waterway.
- It is also the route used for nearly all the Liquefied Natural Gas (LNG) produced by the world's biggest LNG exporter, Qatar.
- The UAE and Saudi Arabia have sought to find other routes to bypass the Strait, including building more oil pipelines.



Strait of Gibraltar

- The strait of Gibraltar is narrow strait that connects the Atlantic Ocean to the Mediterranean Sea and separates Gibraltar and peninsular Spain in Europe from Morocco and Ceuta Africa.
- Gibraltar is a British Overseas Territory.
- In 1704, Anglo-Dutch forces captured Gibraltar from Spain during the War of the Spanish Succession on behalf of the Habsburg claim to the Spanish throne.
- The territory was ceded to Great Britain in perpetuity under the Treaty of Utrecht in 1713.



Bab-el-Mandab

- The Bab al-Mandab strait is the narrow waterway that separates the Arabian Peninsula from the Horn of Africa.
- It links the Red Sea to the Gulf of Aden and the Indian Ocean.
- At its narrowest point, the strait is only 29 km wide between Yemen on one side and Djibouti and Eritrea on the other.
- It is a key strategic channel for commerce and trade, with an estimated 4 percent of global oil supply passing through it.



Mozambique Channel

- It is located between the island nation of Madagascar on the east and Mozambique on the African mainland (west).
- About 1,000 miles (1,600 km) long, it varies in width from 250 to 600 miles (400 to 950 km) and reaches a maximum depth of 10,000 feet (3,000 m).
- The Comoro Archipelago marks the northern entrance, and the islands of Bassas da India and Europa lie in the south.
- An important route for shipping in eastern Africa, it receives all major Madagascar rivers and has the ports of Mahajanga (Majunga) and Toliary (Tuléar) on the same coast.
- Along the opposite coast are the mouth of the Zambezi River and the ports of Maputo (formerly Lourenço Marques), Moçambique, and Beira.
- The Mozambique Current passes through the strait.



Tatar Strait

- Tatar Strait, Russian Tatarsky Proliv, also called Gulf Of Tatory,.
- It is a narrow passage of the northwest Pacific Ocean from the Sea of Japan (south) to the Sea of Okhotsk between Sakhalin Island (east) and the Asian mainland.
- From 4.5 to 213 miles (7 to 342 km) in width and 393 miles (632 km) long, it is generally shallow with depths less than 700 feet (210 m).
- The strait, which receives the Amur River in the north, is the site of the Russian ports of Uglegorsk, Aleksandrovsk-Sakhalinsky, Lesogorsk, and Sovetskaya Gavan.

Formosa Strait

- The Taiwan Strait is also known as Formosa Strait.
- The strait is part of the South China Sea and connects to the East China Sea to the north.

- It is a section of sea between the Chinese mainland and the island of Taiwan. The 180 kilometres-wide strait separating the Republic of China from mainland China.



LANDLOCK COUNTRIES

SOUTH AMERICA

BOLIVIA

- Bolivia, country of west-central South America.
- Bolivia is bordered to the north and east by Brazil, to the southeast by Paraguay, to the south by Argentina, to the southwest and west by Chile, and to the northwest by Peru.
- Bolivia shares Lake Titicaca, the second largest lake in South America (after Lake Maracaibo), with Peru.
- The country has been landlocked since it lost its Pacific coast territory to Chile in the War of the Pacific (1879–84), but agreements with neighbouring countries have granted it indirect access to the Pacific and Atlantic oceans.



AFRICA

BOTSWANA

- Botswana is located at the center of Southern Africa, positioned between South Africa, Namibia, Zambia, and Zimbabwe.
- One of the world's poorest countries at independence in 1966, it rapidly became one of the world's development success.
- Significant mineral (diamond) wealth, good governance, prudent economic management and a relatively small population of slightly more than two million, have made it an upper middle-income country with a transformation agenda of becoming a high-income country by 2036.



ETHIOPIA

- ❑ Ethiopia's location gives it strategic dominance as a jumping off point in the Horn of Africa, close to the Middle East and its markets.
- ❑ Ethiopia is landlocked, bordering Eritrea, Somalia, Kenya, South Sudan, and Sudan, and has been using neighboring Djibouti's main port for the last two decades.
- ❑ However, with the recent peace agreement with Eritrea, Ethiopia is set to resume accessing the Eritrean ports of Assab and Massawa for its international trade.



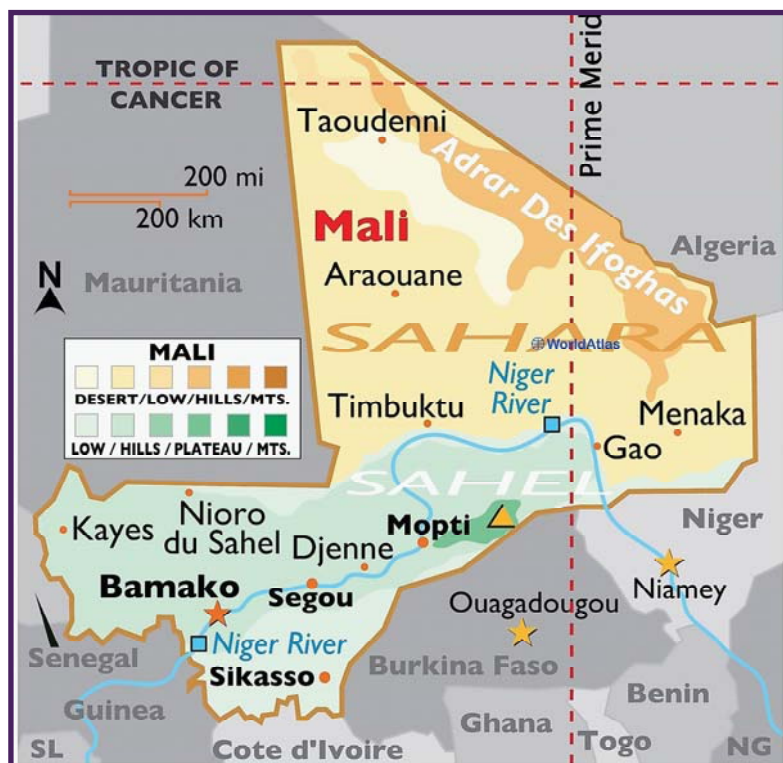
ZAMBIA

- Zambia is a landlocked country at the crossroads of Central, Southern and East Africa.
- Its neighbours are the Democratic Republic of the Congo, Tanzania, Malawi, Mozambique to the southeast, Zimbabwe, Botswana, Namibia, and Angola.
- Inhabited by the Khoisan, Bantu and Batwa peoples.
- Zambia is drained by two major river basins: the Zambezi/Kafue basin and the Congo basin.



MALI

- Mali is the eighth-largest country in Africa.
- Its capital and largest city is Bamako.
- Mali borders Algeria, Niger, Burkina Faso, Ivory Coast, Guinea, and Senegal and Mauritania.
- The thermal equator, which matches the hottest spots year-round on the planet based on the mean daily annual temperature, crosses the country.
- Mali has considerable natural resources, with gold, uranium, phosphates, kaolinite, salt and limestone being most widely exploited.
- 33.3% of the population is inhabited by the Bambara people.



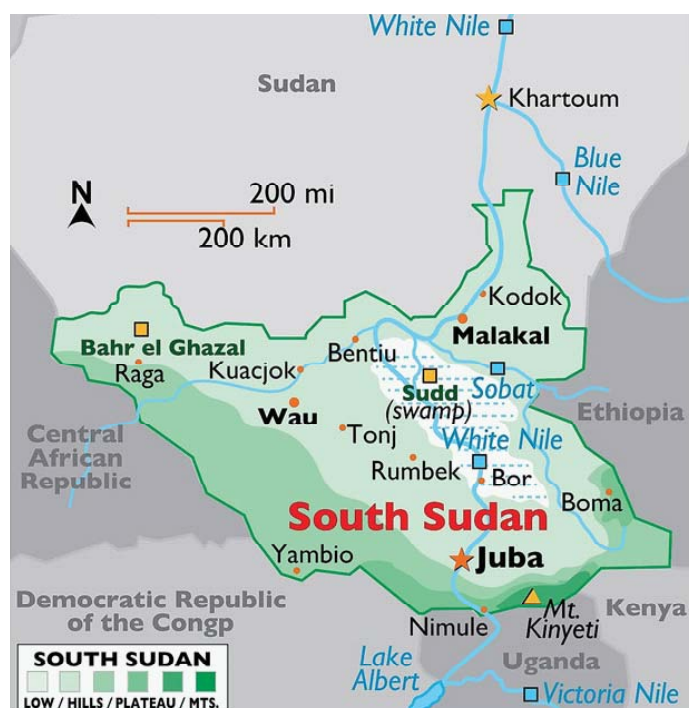
NIGER

- Niger is a unitary state bordered by Libya, Chad, Nigeria, Benin, Burkina Faso, Mali and Algeria.
- Over 80% of its land area lies in the Sahara Desert.
- The capital and largest city is Niamey.



SOUTH SUDAN

- It is bordered by Ethiopia, Sudan, Central African Republic, Democratic Republic of the Congo, Uganda and Kenya.
- The capital and largest city is Juba.
- It includes the vast swamp region of the Sudd, formed by the White Nile and known locally as the Bahr al Jabal meaning "Mountain River".
- South Sudanese population is composed mostly of Nilotic peoples.



CENTRAL AFRICAN REPUBLIC

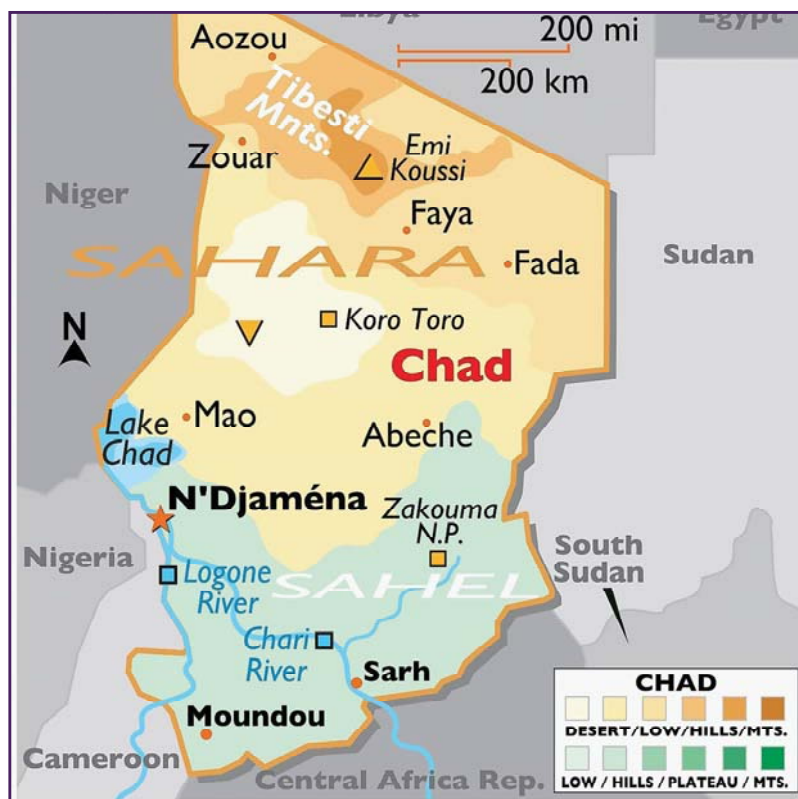
- It is bordered by Chad, Sudan, South Sudan, the DR Congo, the Republic of the Congo, and Cameroon.

- Much of the country consists of flat or rolling plateau savanna.



CHAD

- Chad is bounded by Libya, Sudan, Niger, Nigeria and Cameroon, and Central African Republic.
- Chad is divided into three distinct zones, the Sudanian Savanna in the south, the Sahara Desert in the north, and the Sahelian belt in the center.
- Lake Chad is a historically large, shallow, endorheic lake situated in Chad.
- **Major Ethnic Groups:** 26.6% Sara 12.9% Arab 8.5% Kanembu



ZIMBABWE

- It is a landlocked country located in Southeast Africa, between the Zambezi and Limpopo Rivers.
- It is bordered by South Africa, Botswana, Zambia, and Mozambique.
- The capital and largest city is Harare.
- Victoria Falls is located in the country's extreme northwest and is part of the Zambezi river.



UGANDA

- It is a landlocked country in East Africa.
- The country is bordered by Kenya, South Sudan, Democratic Republic of the Congo, Rwanda, and Tanzania.
- The southern part of the country includes a substantial portion of Lake Victoria, shared with Kenya and Tanzania.
- Uganda is in the African Great Lakes region.
- Uganda also lies within the Nile basin.



EUROPE

LUXEMBOURG

- Luxembourg is in north-western Europe.
- One of the world's smallest countries, it is bordered by Belgium on the west and north, France on the south, and Germany on the northeast and east.
- Luxembourg is a point of contact between the Germanic- and Romance-language communities of Europe, and three languages are regularly employed in the grand duchy itself: Luxembourgish, German, and French.



SWITZERLAND

- Switzerland's administrative capital is Bern, while Lausanne serves as its judicial centre.
- Switzerland is bordered to the west by France, to the north by Germany, to the east by Austria and Liechtenstein, and to the south by Italy.
- Geographically the country is divided between the Alpine region of the Swiss Alps in south, the Swiss Plateau with its rolling hills, plains, and large lakes, and the mountainous Jura in northwest.
- The country is a famous tourist destination for its ski resorts and hiking trails.
- Banking and finance are key industries, and Swiss watches and chocolate are world renowned.



AUSTRIA

- Austria is a landlocked country in the southern part of Central Europe.
- It is located on the Eastern Alps.
- Vienna is Austria's capital and largest city.
- Austria is bordered by Germany, the Czech Republic, Slovakia, Hungary, Slovenia, Italy and Switzerland, Liechtenstein.
- Major Ethnic Groups: 81.1% Austrians, 6.3% Ex-Yugoslavs, 2.7% Germans.



SERBIA

- Serbia is a landlocked country in Southeast Europe, at the crossroads of the Pannonian Plain and the Balkans.
- It is bordered by Albania, Bosnia, Herzegovina, Bulgaria, Croatia, Hungary, North Macedonia, Montenegro and Romania.
- Dinaric Alps stretch in the west and the southwest, following the flow of the rivers Drina and Ibar.
- The Carpathian Mountains and Balkan Mountains stretch in a north-south direction in eastern Serbia.
- The largest lake is derdap Lake.
- The longest river passing through Serbia is the Danube.
- Belgrade is its capital and largest city.
- Major Ethnic Groups: 83.3% Serbs 3.5% Hungarians 2.1% Roma.



HUNGARY

- Hungary is a landlocked country in Central Europe.
- It is bordered by Slovakia, Ukraine, Romania, Serbia, Croatia, Slovenia and Austria.
- Budapest is the country's capital and largest city.
- **Major Ethnic Groups:** 98.3% Hungarians 3.2% Romani 1.8% Germans.
- It has two main waterways, the Danube and Tisza rivers.



SLOVAKIA

- It is bordered by Poland, Ukraine, Hungary, Austria, and the Czech Republic.
- The capital and largest city is Bratislava.
- **Major Ethnic Groups:** 83.8% Slovaks 7.7% Hungarians 1.2% Romani

- Carpathian Mountains extends across most of the northern half of the country.
- The Tatra Mountains, are the highest mountain range in the Carpathian Mountains.
- The largest lowland is the fertile Danubian Lowland in the southwest.



BELARUS

- It is a landlocked country in Eastern Europe.
- It is bordered by Russia, Ukraine, Poland, Lithuania and Latvia.
- **Major Ethnic Groups:** 84.9% Belarusians 7.5% Russians 3.1% Poles 1.7% Ukrainians.
- Three major rivers run through the country: the Neman, the Pripyat, and the Dnieper.
- The Dnieper flows southward towards the Black Sea.
- The country is in the transitional zone between continental climates and maritime climates.



NORTH MACEDONIA

- Macedonia is a country in Southeast Europe.
- North Macedonia is a landlocked country bordering with Kosovo, Serbia, Bulgaria, Greece, and Albania.
- Skopje, the capital and largest city.
- Major Ethnic Groups: Macedonians, Albanians, followed by Turks, Romani, Serbs, Bosniaks, Aromanians.
- The terrain is located between the Sar Mountains and Osogovo, which frame the valley of the Vardar river.
- Three large lakes—Lake Ohrid, Lake Prespa and Dojran Lake.



ASIA

KAZAKHSTAN

- Kazakhstan is the world's largest landlocked country.
- It is bordered by Russia, China, the Kyrgyz Republic, Uzbekistan, Turkmenistan, and the landlocked Caspian Sea.



AFGHANISTAN

- Afghanistan is a landlocked multi-ethnic country located in the heart of south-central Asia.
- It is bounded to the east and south by Pakistan (including those areas of Kashmir administered by Pakistan but claimed by India), to the west by Iran, and to the north by the Central Asian states of Turkmenistan, Uzbekistan, and Tajikistan.



MONGOLIA

- Mongolia, a large and sparsely populated, landlocked country in eastern Asia south of Russia and north of China, east of Kazakhstan.
- The country is known as the "Land of the Eternal Blue Sky" and as the "Land of the Horse".



NEPAL

- Nepal is a landlocked country located in South Asia with China in the north and India in the south, east and west.
- Nepal has vast water systems which drain south into India.
- The highest point in the country is Mt. Everest (8,848 m) while the lowest point is in the Tarai plains of KechanaKalan in Jhapa.



KYRGYZSTAN

- It is a mountainous landlocked country in Central Asia.
- Kyrgyzstan is bordered by Kazakhstan, Uzbekistan, Tajikistan, and China.
- Its capital and largest city is Bishkek.
- Ethnic Kyrgyz make up the majority of the country's six million people, followed by significant minorities of Uzbeks and Russians.
- All its rivers flow into closed drainage systems which do not reach the sea.
- The mountainous region of the Tian Shan covers over 80% of the country.
- Kyrgyzstan is occasionally referred to as "the Switzerland of Central Asia".
- The principal river is the **Kara Darya**, which flows west through the Fergana Valley into Uzbekistan.



TAJIKISTAN

- Its capital and largest city is Dushanbe.
- It is bordered by Afghanistan, Uzbekistan, Kyrgyzstan and China.
- Major Ethnic Groups: 84.3% Tajiks 9.1% Uzbeks 4.5% Pamiris 0.7% Kyrgyzs 0.4% Russians,

- The traditional homelands of the Tajik people include present-day Tajikistan as well as parts of Afghanistan and Uzbekistan.
- The Amu Darya and Panj rivers mark the border with Afghanistan.
- The glaciers in Tajikistan's mountains are the major source of runoff for the Aral Sea.



TURKMENISTAN

- It is bordered by Kazakhstan, Uzbekistan, Afghanistan, Iran and the Caspian Sea.
- Ashgabat is the capital and largest city of the country.
- **Major Ethnic Groups:** 81.8% Turkmens 9.4% Uzbeks 2.2% Russians 1.6% Kazakhs 1.1% Armenians.
- Most of the country is covered by the Karakum or Black Sand Desert.
- The center of the country is dominated by the Turan Depression.
- Turkmenistan includes three tectonic regions, the Epigarsin platform region, the Alpine shrinkage region, and the Epiplatform orogenesis region. The Alpine tectonic region is the epicenter of earthquakes in Turkmenistan.
- Major rivers include the Amu Darya, the Murghab River, the Tejen River, and the Atrek River.



UZBEKISTAN

- It is a double-landlocked country (that is, a landlocked country completely surrounded by other landlocked countries) in Central Asia.
- It is surrounded by five landlocked countries: Kazakhstan, Kyrgyzstan, Tajikistan, Afghanistan, and Turkmenistan.
- Its capital and largest city is Tashkent.
- Major Ethnic Groups: 84.4% Uzbeks 4.9% Tajiks 2.4% Kazakhs 2.2% Karakalpaks 2.1% Russians.
- None of its rivers lead to the sea.



BHUTAN

- Bhutan is a landlocked country in the Eastern Himalayas, located between China and India.
- Bhutan is known as “Druk Yul,” or “Land of the Thunder Dragon”.
- Gangkhar Puensum is Bhutan’s highest peak.
- The capital and largest city is Thimphu.
- Bhutan is landlocked between the Tibet Autonomous Region of China and the Indian states of Sikkim, West Bengal, Assam and Arunachal Pradesh.
- The Black Mountains in Bhutan’s central region form a watershed between two major river systems: the Mo Chhu and the Drangme Chhu.
- The Torsa, Raidak, Sankosh, and Manas are Bhutan’s main rivers.



ARMENIA

- Armenia, is a landlocked country located in the Armenian Highlands of Western Asia.
- It is a part of the Caucasus region.
- It is bordered by Turkey, Georgia, Azerbaijan and Iran.
- Yerevan is the capital and largest city.
- **Major Ethnic Groups:** 98.1% Armenians 1.2% Yazidis 0.4% Russians
- Mount Ararat, is the highest mountain in the region.



MAJOR INDUSTRIES, INDUSTRIAL BELTS & REGIONS IN INDIA

Industrial Regions in India

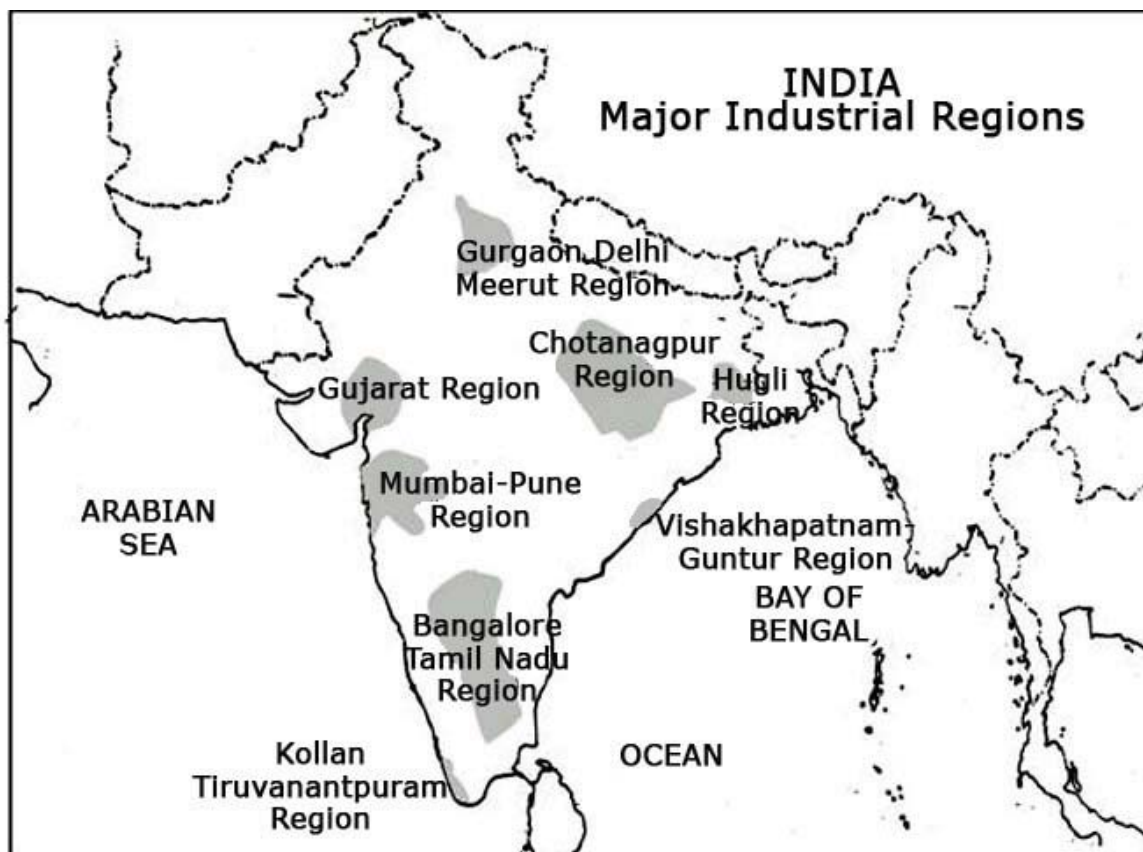
Mumbai-Pune Industrial Region

- This region extends from Thane to Pune and in

adjoining districts of Nashik and Solapur. This region owes its origin to the British rule in India.

- The industrial centres of this region are: Ambarnath, Andheri, Bhandup, Ghatkopar, Hadapsar, Jogeshwari, Kalyan, Kirkee, Kolhapur, Kurla, Nashik, Sholapur, Thane, Trombay, Ulhasnagar, and Vikroli.

Kolkata-Hugli Industrial Region



- Located in West Bengal, this region extends as a **narrow belt running along the river Hugli** for a distance of about 100 km from **Bansbaria and Naihati in the north to Birlanagar in the south.**

- The major centres of this industrial region are Kolkata, Haora, Haldia, Serampur, Rishra, Shibpur, Naihati, Kakinara, Shamnagar, Titagarh, Sodepur, Budge Budge, Birlanagar, Bansbaria, Belgurriah, Triveni, Hugli, Belur, etc.

Bangalore-Tamil Nadu Industrial Region

- Spread in two states of Karnataka and Tamil Nadu, this region experienced the fastest industrial growth in the post-independence era.
- Till 1960, industries were confined to Bangalore district of Karnataka and Salem and Madurai districts of Tamil Nadu. But now they have spread over all the districts of Tamil Nadu **except Viluppuram**.
- **Madurai is known for its cotton textiles.** Visvesvarayya Iron and Steel Works' is located at Bhadravati. The other important centres of this region are Sivakasi, Tiruchirapalli, Madukottai, Mettur, Mysore and Mandya. Petroleum refinery at Chennai and Narimanam and iron and steel plant at Salem are recent developments.

Gujarat Industrial Region

- The nucleus of this region lies between Ahmedabad and Vadodara as a result of which it is also known as **Ahmedabad-Vadodara industrial region**. However, this region **extends upto Valsad and Surat in the south and Jamnagar in the west**.
- The main industrial centres of this region are Ahmedabad, Vadodara, Bharuch, Koyali, Anand, Khera, Surendranagar, Surat, Jamnagar, Rajkot and Valsad.

Chotanagpur Industrial Region

- As its name indicates, this region is located on the **Chotanagpur plateau and extends over Jharkhand, Northern Orissa and Western part of West Bengal**. The region is also known as '**Ruhr of India**'.
- Important nodal centres of this region are Ranchi, Dhanbad, Chaibasa, Sindri, Hazaribagh, Jamshedpur, Daltonganj, Garwa and Japla.

Vishakhapatnam-Guntur Industrial Region

- This industrial region extends from **Vishakhapatnam district in the north-eastern part of Andhra Pradesh to Kurnool and Prakasham districts in the south-east** and covers most of the coastal Andhra Pradesh.

- The important industrial centres of this region are Vishakhapatnam, Vijaywada, Vijaynagar, Rajahmundry, Kurnool, Elum and Guntur.

Gurgaon-Delhi-Meerut Industrial Region

- This region developed after independence, but is one of the fastest growing regions of India. It consists of two industrial belts adjoining Delhi. **One belt extends over Agra-Mathura-Meerut and Saharanpur in U.P. and the other between Faridabad-Gurgaon- Ambala in Haryana.**

Kollam-Thiruvananthapuram Industrial Region

- This is comparatively small industrial region and spreads over Thiruvananthapuram, Kollam, Alwaye, Emakulam and Allapuzha districts of south Kerala.

Minor Industrial Regions in India

- Ambala-Amritsar in Haryana-Punjab.
- Saharanpur-Muzaffarnagar-Bijnaur in Uttar Pradesh.
- Indore-Dewas-Ujjain in Madhya Pradesh.
- Jaipur-Ajmer in Rajasthan.
- Kolhapur-South Kannada in Maharashtra-Karnataka.
- Northern Malabar in Kerala.
- Middle Malabar in Kerala.
- Adilabad-Nizamabad in Andhra Pradesh.
- Allahabad-Varanasi-Mirzapur in Uttar Pradesh.
- Bhojpur-Munger in Bihar.
- Durg-Raipur in Chhattisgarh.
- Bilaspur-Korba in Chhattisgarh.
- Brahmaputra Valley in Assam.

Industrial Corridors

Government of India has approved the development of following five industrial corridor projects to be implemented through National Industrial Corridor Development and Implementation Trust (NICDIT):

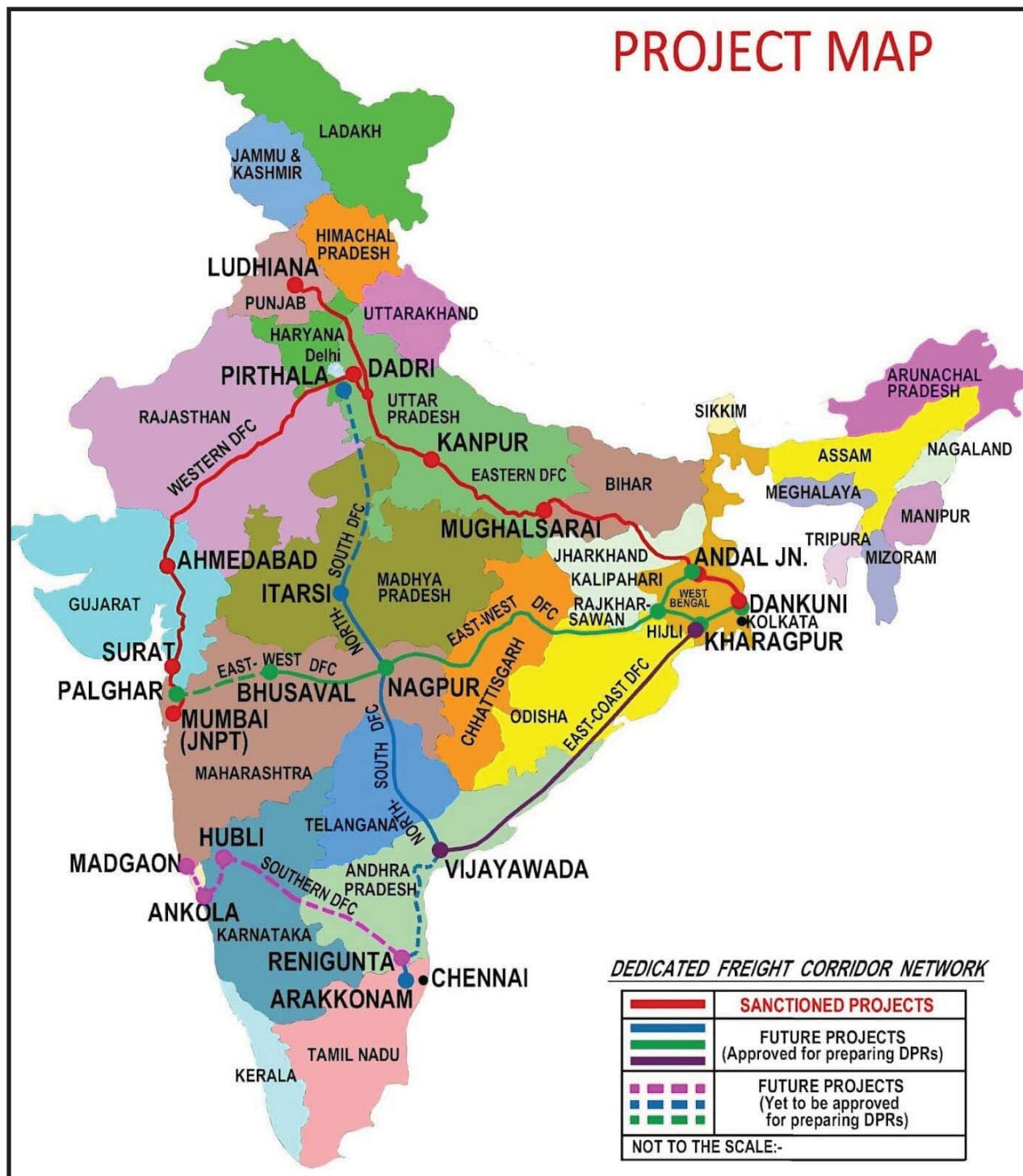
| No. | Industrial Corridor | States |
|-----|--|--|
| 1 | ◦ Delhi Mumbai Industrial Corridor (DMIC) | ◦ Uttar Pradesh, Haryana, Rajasthan, Madhya Pradesh, Gujarat, Maharashtra |
| 2 | ◦ Amritsar Kolkata Industrial Corridor (AKIC) | ◦ Punjab, Haryana, Uttar Pradesh, Uttarakhand, Bihar, Jharkhand, West Bengal |
| 3 | ◦ Chennai Bengaluru Industrial Corridor (CBIC) | ◦ Andhra Pradesh, Karnataka, Tamil Nadu, Kerala |
| 4 | ◦ East Coast Economic Corridor (ECEC) with Vizag Chennai Industrial Corridor (VCIC) as Phase-1 | ◦ West Bengal, Odisha, Andhra Pradesh, Tamil Nadu |
| 5 | ◦ Bengaluru Mumbai Industrial Corridor (BMIC) | ◦ Karnataka, Maharashtra |

Dedicated Freight Corridor

- The Eastern and Western Dedicated Freight Corridors (DFC) are a mega rail transport project being undertaken to increase transportation capacity, reduce unit costs of transportation, and improve service quality.
- The Eastern DFC (1839 route kilometres (RKM)) extends from Dankuni near Kolkata to Ludhiana in Punjab, while the Western DFC (1499 RKM) extends

from the Jawahar Lal Nehru Port (JNPT) in Mumbai to Dadri /Rewari near Delhi.

- ▶ An SPV Dedicated Freight Corridor Corporation of India Limited was set up to implement the project.
- The major part of Eastern Dedicated Freight Corridor is being funded by World Bank and the Western Dedicated Freight corridor is being funded by Japan International Cooperation Agency (JICA). Some parts are being built in PPP Mode.



Major Industries

Iron and Steel industry

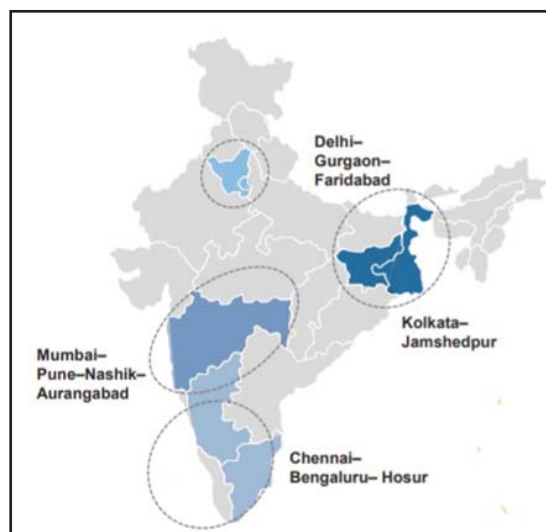
- India is the second largest crude steel producer in the world, with a total production of 103 MT in FY21.
- India is home to fifth-highest reserves of iron ore in the world.
- The country is also the largest producer of Sponge Iron or DRI in the world and the **3rd largest finished steel consumer in the world after China & USA.**

| Top 5 steel-producing countries | | | | |
|---------------------------------|---------------|-----------|-----------|------------|
| Rank | Country | 2019 (Mt) | 2018 (Mt) | %2019/2018 |
| 1 | China | 996.3 | 920.0 | 8.3 |
| 2 | India | 111.2 | 109.3 | 1.8 |
| 3 | Japan | 99.3 | 104.3 | -4.8 |
| 4 | United States | 87.9 | 86.6 | 1.5 |
| 5 | Russia (e) | 71.6 | 72.0 | -0.7 |

Automobile Industry

- India became the fourth largest auto market in 2018 with sales increasing 8.3 per cent year-on-year to 3.99 million units. It was the **seventh largest manufacturer of commercial vehicles in 2018.**
- The Indian automobile industry contributes almost 6.4% of India's GDP and 35% of manufacturing GDP and is a leading employment provider.
- Focus is shifting to electric vehicles to reduce emissions.
- The electric vehicles industry is likely to create five crore jobs by 2030.
- The Automotive Mission Plan 2016-26 is a mutual initiative by the Government of India and the Indian automotive industry to lay down the roadmap for the development of the industry.
- India enjoys a strong position in the global heavy vehicles market as it is the largest tractor producer, second-largest bus manufacturer, and third-largest heavy trucks manufacturer in the world.
- India's annual production of automobiles in FY22 was 22.93 million vehicles.
- The India passenger car market was valued at US\$ 32.70 billion in 2021.

- The Government of India encourages foreign investment in the automobile sector and has allowed 100% FDI under the automatic route.
- In July 2022, the Government amended the National Policy on Biofuels – 2018.
- The target of 20% blending of ethanol in petrol and 5% blending of biodiesel in diesel by 2030 was brought forward to 2025-26.
- As of July 15, 2022, under the FAME India Scheme I & II, a total of 532 EV charging stations have been installed by oil companies under the Ministry of Petroleum and Natural Gas (MoPNG).
- In August 2021, Prime Minister Mr. Narendra Modi launched the Vehicle Scrappage Policy, which aims to phase out old polluting vehicles in an environmentally-safe manner.
- In July 2021, India inaugurated the NATRAX, which is Asia's longest high-speed track and the fifth-largest in the world.



Chemical Industry

- Indian ranks 14th in export and 8th in import of chemicals (Excluding Pharmaceuticals products) globally.
- Globally, India is the fourth-largest producer of agrochemicals after the United States, Japan and China.
- The Indian chemicals industry stood at US\$ 178 billion in 2019.
- It is expected to reach US\$ 304 billion by 2025 registering a CAGR of 9.3%. The demand for chemicals is expected to expand by 9% per annum by 2025.



- The chemical industry is expected to contribute US\$ 300 billion to India's GDP by 2025.
- Alkali chemicals had the largest share in the Chemical industry in India with approximately 69% share in the total production.
- Six countries out of the top 10 biggest producers are Asian (China, Japan, South Korea, India,

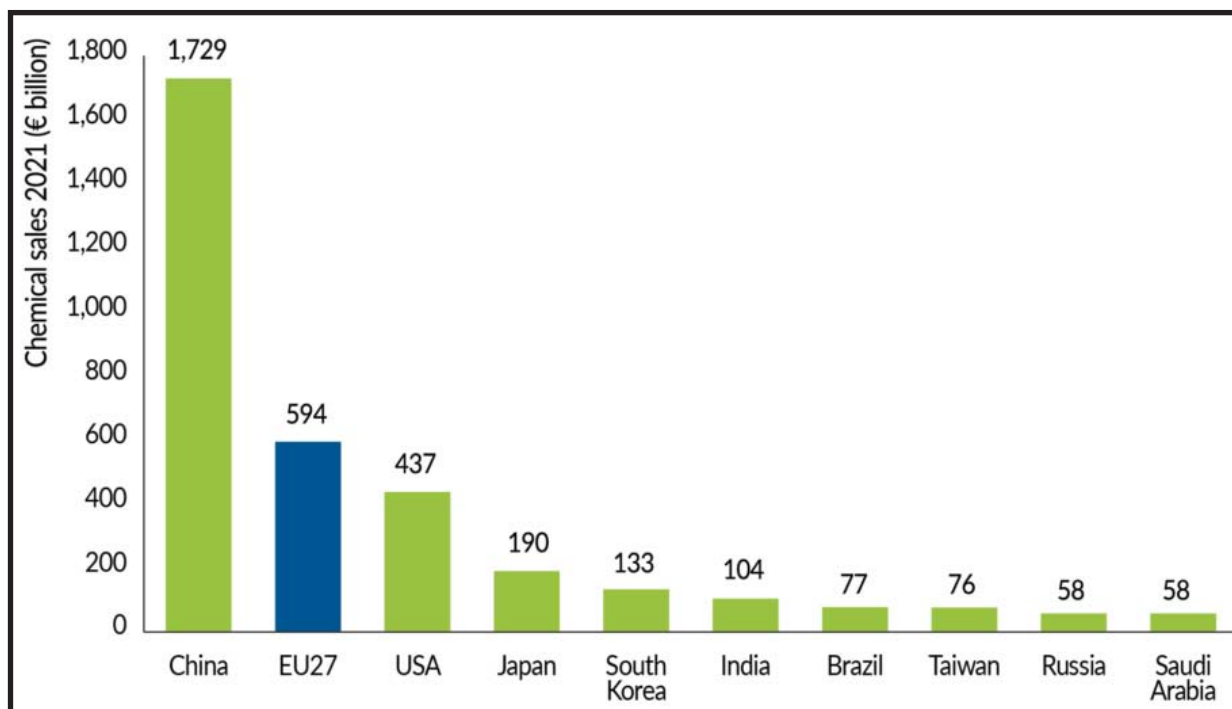
Taiwan, and Saudi Arabia), generating chemical sales of €1,886 billion – 51.5% of the world market. China's sales levels are higher than the EU and US markets combined.

- The government has started various initiatives such as mandating BIS-like certification for imported chemicals to prevent dumping of cheap and substandard chemicals into the country.

- The Indian government recognises chemical industry as a key growth element and forecast to increase share of the chemical sector to ~25% of the GDP in the manufacturing sector by 2025.
- 100% FDI is allowed under the automatic route in

the chemicals sector with few exceptions that include hazardous chemicals.

- The government plans to introduce production-linked incentive (PLI) scheme to promote domestic manufacturing of agrochemicals.



Fertilizer Industry

- India is the 3rd largest producer and consumer of fertilizers in the world.
- The Indian fertilizers market is estimated to record a CAGR of 11.9% during the forecast period (2021-2026).
- The Indian fertilizer market reached a value of INR 887 Billion in 2020. The rise fertilizer consumption has contributed majorly to the country's sustainable production of food grains.
- Domestic production of urea has decreased marginally by 0.7%, and imports have increased by 9.0% during FY18. Presently India mainly imports Urea from Oman (42%), Iran (34%) and China (13%).
- Diammonium Phosphate (DAP) production has risen on account of expansion of domestic capacity and easy availability of acid, which has partly substituted imports that decreased by 3.8% during FY18. India mainly imports DAP from China (45%), Saudi Arabia (31%), USA (13%) and Jordan (5%).
- India meets its Potassium chloride also called as Potash or MOP requirements completely through imports

from Canada (23%), Russia (22%), CIS+ Belarus (15%), Israel (15%), Jordan (11%) and Lithuania (10%). MOP imports have increased by 26.8%.

- The Indian Fertilizer market is projected to reach INR 11,116 Billion by 2024, growing at a CAGR of 12.3% during 2019-2024. The demand of fertilizers in India has witnessed double digit growth rates over the past several years thanks to sustainable agriculture industry.

[See Future in Next Pages]

Sugar Industry

- Sugar industry is broadly distributed over two major areas of production- Uttar Pradesh, Bihar, Haryana and Punjab in the north and Maharashtra, Karnataka, Tamil Nadu and Andhra Pradesh in the south.
- South India has tropical climate which is suitable for higher sucrose content giving higher yield per unit area as compared to north India.
- **Rangarajan committee (2012)** was set up to give recommendations on regulation of sugar industry.

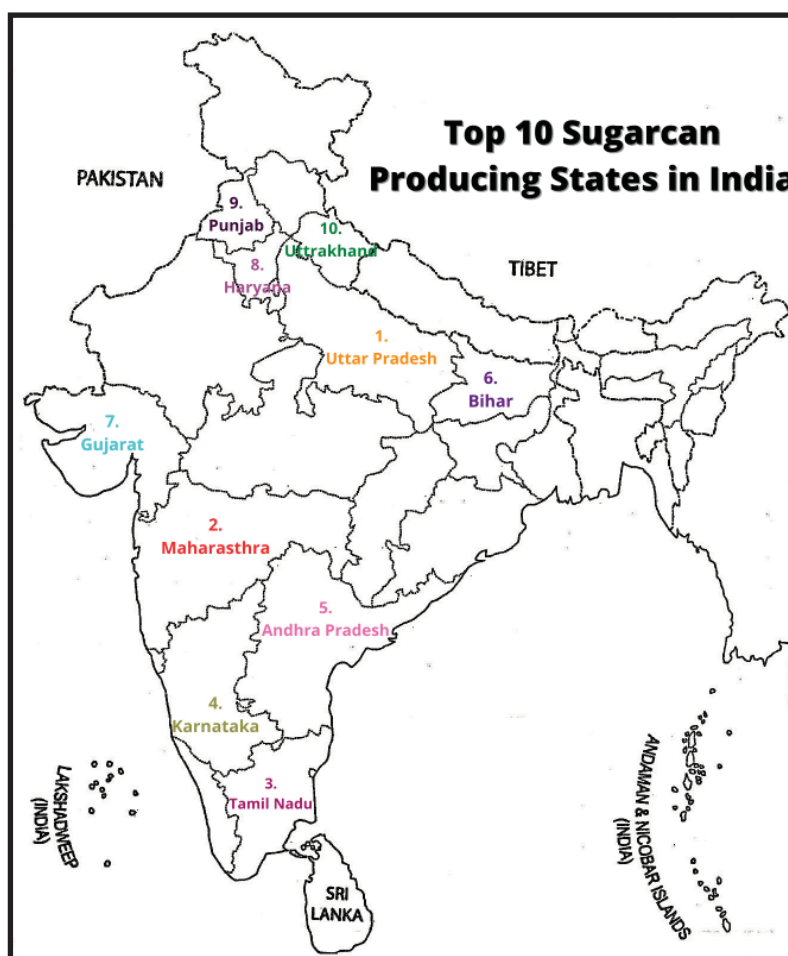


- India became the world's largest sugar producer in 2018/2019, beating out Brazil for the first time in 16 years. India produced 33 million metric tons of sugar. That is 19% of the world's total sugar production of 179 million metric tons.
- Indian sugar industry is the second largest agro-based industry in India after cotton textiles.
- Top 5 countries:** India, Brazil, European Union, Thailand and China.

Sugarcane Crop

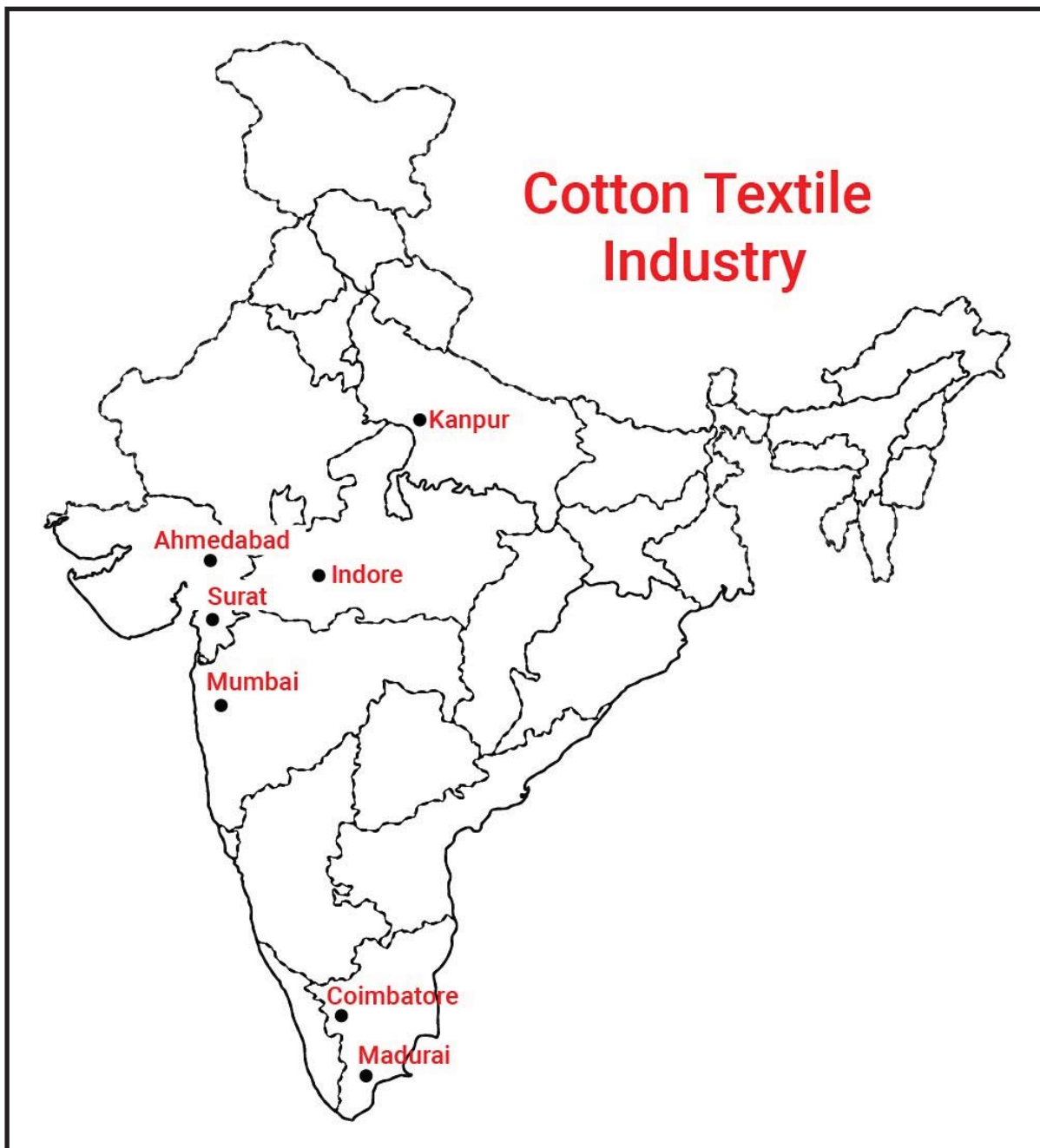
- In India, Sugarcane is grown as a **Kharif Crop**.
- It needs hot and humid climate with an **average temperature of 21°C to 27°C**.
- 75-150 cm rainfall** is favorable for sugar cane cultivation.
- Sugarcane can grow in any soil which can retain moisture. **Ideal soil for sugarcane is deep rich loamy soil**. The soil needs to be **rich in nitrogen, calcium and phosphorus** but neither it should be neither too acidic nor too alkaline.

| Geographical Distributions | | |
|----------------------------|----------------|--|
| No | State | Centers |
| 1 | Uttar Pradesh | <ul style="list-style-type: none"> Uttar Pradesh is the leading producer of sugar. There are two distinct regions of sugar production in Uttar Pradesh. <ul style="list-style-type: none"> One region consists of Gorakhpur, deoria, Basti and Gonda in eastern Uttar Pradesh. The second region consists of Meerut, Sharanpur, Muzaffarnagar, Bijnor and Moradabad. |
| 2 | Bihar | <ul style="list-style-type: none"> The districts of Darbhanga, Saran, Champaran and Muzaffarpur are the leading producers of sugar in Bihar. |
| 3 | Punjab | <ul style="list-style-type: none"> Phagwara and dhuri in Punjab are the main centers of sugar production. |
| 4 | Haryana | <ul style="list-style-type: none"> Ambala, Rohtak and Panipat. |
| 5 | Maharashtra | <ul style="list-style-type: none"> In peninsular India, Maharashtra is the most is the most important state where sugarcane cultivation and sugar mills are integrated in cooperative system. Major centers of sugar production in Maharashtra are Nasik, Pune, Sastra, Sangli, Kolhapur and Solapur. |
| 6 | Karnataka | <ul style="list-style-type: none"> Munirabad, Shimoga and Mandya. |
| 7 | Tamil Nadu | <ul style="list-style-type: none"> Nalikupuram, Pugulur, Coimbatore and Pandyarajpuram. |
| 8 | Andhra Pradesh | <ul style="list-style-type: none"> Nizamabad, Medak, west and East Godavari, Vishakapatnam and Chittoor. |
| 9 | Odisha | <ul style="list-style-type: none"> Bargarh and Rayagada. |



Cotton Industry

Cotton Crop



- ◉ **Temperature:** Between 21°C-30°C
- ◉ **Rainfall:** Around 50-100 cm.
- ◉ **Soil Type:** Well-drained black cotton soil of Deccan Plateau.
- ◉ **Top Cotton Producing States:** Gujarat > Maharashtra > Telangana > Andhra Pradesh > Rajasthan.
- ◉ India got 1st place in the world in cotton acreage with around 126.07 lakh hectares under cotton cultivation

i.e. around 37% of the World area of 336.3 lakh hectares.

- ◉ Approximately 62% of India's Cotton is produced on rain-fed areas and 38% on irrigated lands. In terms of productivity, India ranks poorly compared to USA (955 kgs/ha) & China (1764 Kgs/ha).
- ◉ During 2018-19, India's Productivity is estimated at 454.43 kg/ha.

- Presently, **Cotton is a freely exportable commodity from India.**
- India exports Cotton mainly to Bangladesh, China, Vietnam, Pakistan, Indonesia, Taiwan, Thailand etc. Even though China was the largest importer of Indian cotton fibre till 2013-14, it became the third largest importer of Indian Cotton fibre in 2015-16 after Pakistan and Bangladesh.
- As per ICAC publication 'Cotton This Month – August 2019', details of major country-wise area & productivity, production, consumption, export and import are as under:

| PRODUCTION (Quantity in Million Metric Tonnes) | | | | | |
|---|-------------|-------------|--------------------|--------------------|--------------------|
| | 2015-2016 | 2016-2017 | 2017-2018 Estimate | 2018-2019 Estimate | 2019-2020 Estimate |
| World Total | 21.48 | 23.08 | 26.68 | 25.69 | 27.24 |
| China | 5.20 | 4.90 | 5.89 | 6.04 | 5.92 |
| India | 5.75 | 5.87 | 6.35 | 5.45 | 5.75 |
| USA | 2.81 | 3.74 | 4.56 | 4.00 | 4.79 |
| Pakistan | 1.54 | 1.66 | 1.80 | 1.67 | 1.97 |
| Brazil | 1.29 | 1.53 | 2.01 | 2.67 | 2.67 |
| CONSUMPTION (Quantity in Million Metric Tonnes) | | | | | |
| | 2015-2016 | 2016-2017 | 2017-2018 Estimate | 2018-2019 Estimate | 2019-2020 Estimate |
| World Total | 24.13 | 24.78 | 26.35 | 26.66 | 26.89 |
| China | 7.60 | 8.28 | 8.50 | 8.45 | 8.25 |
| India | 5.30 | 5.15 | 5.42 | 5.40 | 5.54 |
| USA | 2.15 | 2.15 | 2.35 | 2.36 | 2.42 |
| Pakistan | 1.68 | 1.61 | 1.63 | 1.70 | 1.73 |
| Brazil | 1.32 | 1.41 | 1.66 | 1.69 | 1.74 |

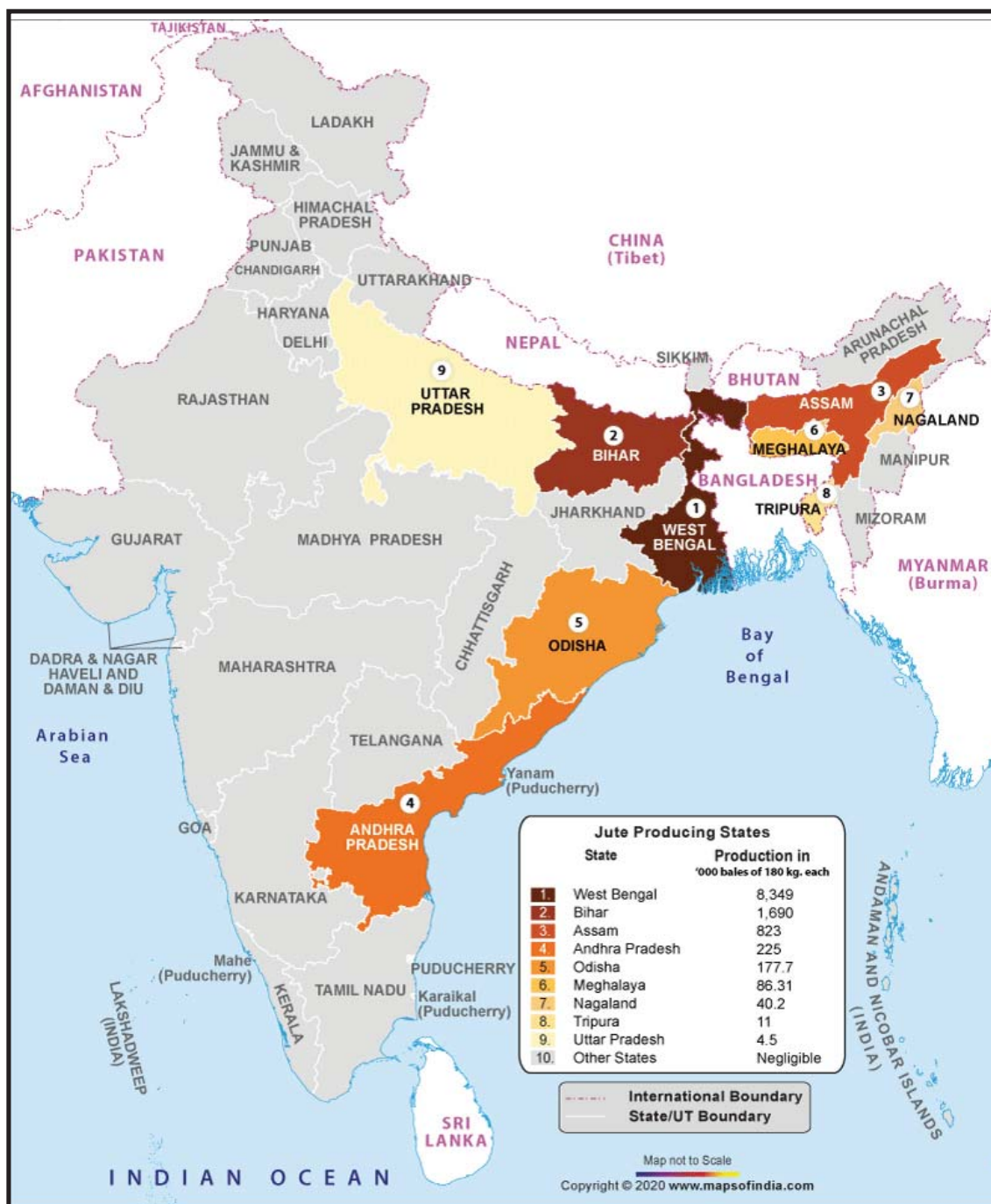
| AREA & PRODUCTIVITY (Area in Thousand Hectare & PRODUCTIVITY in Kgs/Hectare) | | | | | | |
|--|---------------|------------|---------------|------------|-----------------------|------------|
| | 2017-2018 | | 2018-2019 | | 2019-2020 (Projected) | |
| | Area | Yield | Area | Yield | Area | Yield |
| World Total | 33,199 | 806 | 32,937 | 782 | 34,675 | 786 |
| India | 12,235 | 519 | 12,200 | 451 | 12,200 | 471 |
| USA | 4,492 | 1,014 | 4,130 | 968 | 5,059 | 947 |
| China | 3,350 | 1,758 | 3,367 | 1,794 | 3,300 | 1,794 |
| Pakistan | 2,665 | 674 | 2,682 | 623 | 2,900 | 679 |
| Brazil | 1,175 | 1,707 | 1,600 | 1,673 | 1,600 | 1,666 |

| EXPORTS (Quantity in Million Metric Tonnes) | | | | | |
|---|-------------|-------------|--------------------|--------------------|--------------------|
| | 2015-2016 | 2016-2017 | 2017-2018 Estimate | 2018-2019 Estimate | 2019-2020 Estimate |
| World Total | 7.54 | 8.19 | 9.04 | 9.40 | 9.56 |
| USA | 1.99 | 3.25 | 3.45 | 3.16 | 3.63 |
| India | 1.26 | 0.99 | 1.13 | 0.80 | 0.90 |
| CFA Zone | 0.98 | 0.99 | 1.06 | 1.17 | 1.24 |
| Brazil | 0.94 | 0.61 | 0.91 | 1.61 | 1.58 |
| Uzbekistan | 0.50 | 0.40 | 0.34 | 0.13 | 0.00 |
| IMPORTS (Quantity in Million Metric Tonnes) | | | | | |

| | 2015-2016 | 2016-2017 | 2017-2018 Estimate | 2018-2019 Estimate | 2019-2020 Estimate |
|--------------------|-----------|-----------|--------------------|--------------------|--------------------|
| World Total | 7.58 | 8.08 | 9.01 | 9.40 | 9.56 |
| Bangladesh | 1.38 | 1.41 | 1.67 | 1.65 | 1.82 |
| Vietnam | 1.00 | 1.20 | 1.57 | 1.58 | 1.69 |
| China | 0.96 | 1.10 | 1.32 | 1.94 | 2.07 |
| Turkey | 0.92 | 0.80 | 0.88 | 0.68 | 0.58 |
| Indonesia | 0.64 | 0.74 | 0.76 | 0.81 | 0.88 |

Jute Industry

- Known as the '**golden fibre**' jute is one of the longest and most used natural fibre for various textile applications.



- It thrives in tropical lowland areas with humidity of 60% to 90%.

- Jute is a rain-fed crop with little need for fertilizer or pesticides.
- Retting of Jute is a process in which the tied bundles of jute stalks are immersed in water by which fibres get loosened and separated from the woody stalk.
- World's leading jute producing countries are India, Bangladesh, China and Thailand.
- India is the world's largest producer of raw jute and jute goods, contributing to over 50% and 40% respectively of global production.
- India is the leading jute goods-producing country globally, accounting for about 70% of estimated world production.
- The cultivation of jute in India is mainly confined to the eastern region of the country. The jute crop is grown in seven states - West Bengal, Assam, Odisha, Bihar, Uttar Pradesh, Tripura and Meghalaya. West Bengal alone accounts for over 50% of the total raw jute production.
- The first jute mill was established at Rishra (Bengal - now in West Bengal), on the river Hooghly near Calcutta in the year 1855, by Mr. George Aclend. In 1959, the first power driven weaving factory was set up.
- India exports jute and jute products mainly to the USA, the UK, Australia, Belgium, Egypt, Germany, Italy, Japan, Saudi Arabia, and Turkey.
- **Top 5 Countries-Jute Production**
 - ▶ India
 - ▶ Bangladesh
 - ▶ China
 - ▶ Uzbekistan
 - ▶ Nepal

CSAPM scheme

- It has been approved by the Ministry of Textiles, Govt. of India and is implemented through National Jute Board (NJB), a statutory body under the Ministry of Textiles, Govt. of India.
- The objective of the Scheme is to provide financial assistance to the beneficiaries for the purchase of Jute diversified products (JDP) manufacturing machinery.
- This Scheme is initiated under National Jute Development Program (NJDP) umbrella scheme of NJB during the 15th Finance Commission (2021-26).

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PLACES IN NEWS

Askot wildlife sanctuary declared eco-sensitive zone (ESZ)

- **Askot Wildlife Sanctuary in Uttarakhand's Pithoragarh** has been finally declared as an **Eco-Sensitive Zone (ESZ)**.
- **The Askot Musk Deer Sanctuary, established in 1986**, was established to protect the **endangered Musk Deer and its habitat**.
- The sanctuary area is known as **'Green Paradise on the Earth'**.
- It is **located in Askot, a small hamlet in Uttarakhand's Pithoragarh district**.
- In the sanctuary there are **2600 plants, 250 birds and 37 mammal species** like snow leopard, Himalayan black bear, Himalayan tahr, blue sheep, serow besides musk deer.

Among the fauna are species like loong, monal, kalij pheasant and cheer pheasant.

- The sanctuary also has **rare varieties of 2,600 Himalayan herbs and 250 varieties of birds and 37 varieties of reptiles**.

What Are Eco-Sensitive Zones (ESZ)?

- **Eco-Sensitive Zone (ESZ)** is a buffer or transition zone around **highly-protected areas** such as **National Parks and Wildlife Sanctuaries**.
- The purpose of declaring ESZs is to create some kind of **"shock absorbers"** to the protected areas by **regulating and managing the activities around such areas**.

Srinagar is now a part of UNESCO 'Creative Cities Network'

- United Nations Educational, Scientific and Cultural Organization (UNESCO) designated Srinagar as a part of the UNESCO Creative Cities Network (UCCN).

- The Srinagar city has been designated the creative city in the field of Crafts and Folk Arts - the only second city in India in this category after
- It will not only provide international recognition for the city of Srinagar but also help it with international funding, networking and vocational universities and pitching arts as a product.
- With this, Srinagar (the capital city of Jammu and Kashmir) has entered the club of 295 creative cities network across the world.
- Every year, UNESCO seeks applications for various cities across the globe for putting them under its UCCN project.
- In India, the applications are routed through the Ministry of Culture.

Indian Cities on UCCN

- **Srinagar** - Crafts and Folk Arts (2021)
- **Mumbai** – Film (2019)

UNESCO Creative Cities Network (UCCN)

- **UCCN was created in 2004.**
 - It aims to **"promote cooperation among cities which recognize creativity as a strategic factor in their urban development"**.
Sustainable Development Goal 11 aims for Sustainable Cities and Communities.
- The network covers **seven creative fields**:
 - Crafts and folk arts
 - Media arts
 - Film
 - Design
 - Gastronomy
 - Literature
 - Music

- **Hyderabad** – Gastronomy (2019)
- **Chennai**- Creative city of Music (2017)
- **Jaipur**- Crafts and Folk Arts (2015)
- **Varanasi**- Creative city of Music (2015)

New Tiger Reserve: Chhattisgarh

- **National Tiger Conservation Authority (NTCA)** designated the combined areas of **Guru Ghasidas National Park** and **Tamor Pingla Wildlife Sanctuary** as **Tiger Reserve**.
- The new Reserve is located in the northern part of the country, across Madhya Pradesh and Jharkhand.
- This will be the fourth Tiger Reserve in Chhattisgarh, after:
 - ▶ Udanti-Sitanadi
 - ▶ Achanakmar
 - ▶ Indravati
- Approval was granted under **Section 38V (1) of the Wildlife (Protection) Act, 1972**.

National Tiger Conservation Authority (NTCA)

- NTCA is a statutory body under the Ministry of Environment, Forests and Climate Change, established in 2005 for strengthening tiger conservation.

About Guru Ghasidas National Park

- Named after the Satnami reformist hero of the place, Guru Ghasidas, is the result of the carving of Chhattisgarh from Madhya Pradesh in the year of 2000.
- Guru Ghasidas National Park was the last known Asian cheetah in the country.
- It is located in the Koriya state of Chhattisgarh.
- It connects Jharkhand and Madhya Pradesh and provides a corridor for tigers to move between the Bandhavgarh (Madhya Pradesh) and Palamau Tiger Reserves (Jharkhand).
- The park has a constant topography and falls under a tropical climate zone.

About Tamor Pingla Wildlife Sanctuary

- It is located in the Surajpur district of Chhattisgarh on the border of Uttar Pradesh.
- It is named after the hill of Tamor and Pingla Nalla.
- Tamor hill and Pingla Nalla are considered to be the oldest and most prominent features of the sanctuary.

39th World Heritage Site of India declared

- Rudreswara Temple, (also known as the Ramappa Temple), Telangana has been inscribed on UNESCO's World Heritage list. It was the only nomination for the UNESCO World Heritage site tag for the year 2019.
- The Rudreswara temple was constructed in 1213 AD.
- It is also known as 'Thousand Pillar Temple'.
- It was constructed under the reign of the Kakatiya Empire by Recherla Rudra, a general of Kakatiya king Ganapati Deva.
- The Ramappa temple is named after its architect, Ramappa who executed the work in the temple for 40 years.
- The presiding deity here is Ramalingeswara Swamy.
- The triple shrine (Trikutalayam) is dedicated to Vishnu, Shiva, and Surya.
- The temple stands on a 6 feet high star-shaped platform.
- The walls, pillars, and ceilings adorned with intricate carvings attest to the unique skill of the Kakatiyan sculptors.
- The temple was called the "brightest star in the galaxy of medieval temples of the Deccan" by European travelers.



- The building features are decorated beams and pillars of carved granite and dolerite with a distinctive and pyramidal Vimana (horizontally stepped tower).
- Walls are made of lightweight porous bricks, so-called 'floating bricks', which reduced the weight of the roof structures.
- The temple's sculptures are of high artistic quality which illustrates regional dance customs and Kakatiyan culture.
- It is located at the foothills of the forested area amidst agricultural fields, close to the shores of the Ramappa Cheruvu, a Kakatiya-built water reservoir.

Kakatiya Dynasty

- Kakatiyas is an Andhra dynasty that flourished in the 12th century CE.
- The Kakatiya dynasty ruled from Warangal (Telangana) from CE 1083-1323.
- They are known for the construction of a network of tanks for irrigation and drinking water that is under restoration by the Telangana government under 'Mission Kakatiya'.
- Hundreds of Hindu temples were built under the patronage of Kakatiya kings such as Ganapati Deva, Rudrama Devi, and Prataparudra of the Kakatiya dynasty.
- Golconda Fort in Hyderabad was also constructed by Kakatiya rulers.

Mangarh Massacre

- Ahead of PM Modi's visit to Mangarh Dham in Banswara district, Rajasthan CM has sought the declaration of the memorial for tribals as a monument of national importance.
- Mangarh Dham is known for the **massacre of tribals by the British Indian Army in 1913**.
- This place is widely referred to as **Adivasi Jallianwala**.
- **About 1,500 Bhil tribals** and forest dwellers were killed at **Mangarh on November 17, 1913, when the British Indian Army opened fire on the protesters**.
- The people were gathered to **demand abolition of the bonded labour system and relaxation in heavy agricultural taxes** imposed by the rulers of princely states.
- The tribals in the **southern Rajasthan region** were led by **social reformer Govind Guru**.

China's 'nine-dash line'

- After the Chinese government said it has "overlapping claims" with Vietnam over maritime rights in parts of the East Sea, Indonesia rubbished the statement, rejected China's offer for any negotiations and said that Jakarta's economic interests are threatened by **China's Nine-Dash Line**.
- An arm of the western Pacific Ocean that borders the Southeast Asian mainland.
- Bordered by Brunei, Cambodia, China, Indonesia, Malaysia, the Philippines, Singapore, Taiwan, Thailand and Vietnam.
- It is connected by the Taiwan Strait with the East China Sea and by the Luzon Strait with the Philippine Sea (both marginal seas of the Pacific Ocean).

- Comprise three archipelagoes, namely, the Spratly Islands, Paracel Islands, Pratas Islands and Macclesfield's Bank and Scarborough Shoal.

Disputed Areas

- **China's Nine Dash Line:** Defines area claimed by China - by far the largest portion of the Sea.
- **Scarborough Shoal:** Claimed both by the Philippines and China (known as Huangyan Island in China).
- **Spratlys:** Occupied by claimants, which consist of Taiwan, Vietnam, the Philippines, China and Malaysia.
- **Paracel Islands:** Subject of overlapping claims by China, Vietnam and Taiwan.
- **Island Chain Strategy:** A geographical security concept crafted by the United States in the 1940s to deter China and the Soviet Union's maritime ambitions.

October Storm in Bay of Bengal

- The first Tropical Cyclone of the post-monsoon season of 2022 is likely to form in the **Bay of Bengal on October 24 and will be called Sitrang**.
- The last October cyclone in the **Bay of Bengal** was **Titli in 2018**.
- **The name Sitrang (read Si-trang) has been given by Thailand**, and features in the list of tropical cyclone names prepared by the **Regional Specialised Meteorological Centre (RSMC)** being followed since **April 2020**.

Hampi, Khajuraho on list for G20 culture track

- The Government is planning to **host five key meetings focusing on the "culture track" at Khajuraho, Bhubaneswar, Hampi and Agra**, as part of India's **G20 Presidency between December 2022 and November 2023**.

Temples at Khajuraho

- The Temples of Khajuraho are a magnificent example of the Nagara style of temples as the temples consist of
 - ▶ a sanctum
 - ▶ a narrow ante-chamber (*antarala*)
 - ▶ a transept (*mahamandapa*)
 - ▶ additional halls (*ardha mandapa*)
 - ▶ a *mandapa* or nave
 - ▶ an ambulatory passage (*Pradakshina-path*) which is lighted by large windows.

- Khajuraho, known for its ornate temples, was built by the Chandela rulers between 900 CE to 1130 CE.
- The first mention of Khajuraho and its temples is in the accounts of Abu Rahyan al Biruni (1022 CE) and Ibn Batuta (1335 CE).
- The Temples of Khajuraho are divided into three groups, the Western Group, the Eastern Group and the Southern Group.
- A few temples at Khajuraho are of the *Panchayatana* type, with four shrines dedicated to the divinities and often another shrine in front of the portico dedicated to the *vahana* (vehicle) of the principal deity.
- Kandariya Mahadeva Temple is the largest of all the temples in Khajuraho, it dates back to the 10th century CE. Inside the sanctum stands a marble *linga*, the symbol of Lord Shiva.
- Devi Jagdamba Temple is around 77 feet in length and 50 feet in breadth, this temple is now known by the name of Devi Jagdamba or the 'Mother Goddess of the World'. It was originally believed to have been dedicated to Lord Vishnu as his figure occupies the centre of the entrance to the sanctum. It also has the figures of Lord Shiva and Lord Brahma to the right and left.
- Vishwanath Temple - As tall as 90 feet, the entrance of the sanctum sanctorum has a figure of Lord Shiva seated on Nandi (bull). There are also figures of Lord Brahma on his vehicle, (the Goose) and Lord Vishnu on his vehicle (the Eagle) to the right and left.
- Laxman, Brahma, and Vamana are other temples in Khajuraho.

Tamil Nadu notifies Slender Loris Sanctuary

- In a first in the country, the Tamil Nadu government notified Kaduvur slender loris sanctuary covering 11,806 hectares in Karur and Dindigul districts.

About Slender Loris

- **Slender loris (*Loris tardigradus*)** is a shy, secretive and reclusive species of primate, and has nocturnal habits.
- They are small nocturnal mammals that are arboreal in nature as they spend most of their life on trees.
- They are usually solitary but sometimes found in pairs.
- It is native to **Southern India and Sri Lanka**.
- It is commonly found in the tropical scrubs, deciduous forests and scrubs as well as the dense hedgerow plantations bordering farmlands.
- **IUCN - Endangered**
- **CITES - Appendix II**
- **Wild Life Protection Act, 1972 - Schedule I**

- The Kadavur slender loris sanctuary is to cover Veda sandur, Dindigul East and Natham taluks in Dindigul district and Kadavur taluk in Karur district.
- The government notified '**Kadavur slender loris sanctuary**' under **Section 26 (A)(1)(b) of Wildlife (Protection) Act, 1972**.

Mahakal Lok corridor project

- Prime Minister inaugurated the first phase of the 'Shri Mahakal Lok' corridor in Ujjain, Madhya Pradesh.
- After Vishwanath temple in Varanasi and the Kedarnath shrine in Uttarakhand, Mahakal temple is the third 'jyotirlinga' site to see a major upliftment exercise.
- The temple is believed to be governed by **Mahakaleshwar**, which means the '**Lord of time**' i.e., **Lord Shiva**. As per Hindu mythology, the temple was **constructed by Lord Brahma** and is presently located alongside the **holy river Kshipra**.
- **Only Jyotirlinga which is facing South.**
- Mahakaleshwar Jyotirlinga in Ujjain is **one of the 12 jyotirlingas** considered the most sacred abodes of Shiva.
- The shrine is revered as **one of the 18 Maha Shakti Peeth** in India.
- The **old Rudrasagar Lake**, which has also been revitalised as part of the development project around the historic Mahakaleshwar Temple, will be skirted by the Mahakal Lok.
- Besides Mahakal, the other jyotirlinga include **Somnath** and **Nageshwar** in Gujarat, **Mallikarjuna** in Andhra Pradesh, **Omkareshwar** in Madhya Pradesh, Kedarnath in Uttarakhand, **Bhimashankar**, **Triyambakeshwar** and **Grishneshwar** in Maharashtra, **Viswanath** at Varanasi, **Baidyanath** in Jharkhand, and **Rameswaram** in Tamil Nadu.
- In the early part of the Meghadutam (Purva Megha) composed in the **4th century**, **Kalidasa** gives a description of the Mahakal temple.
- In the **13th century**, the temple complex was destroyed by Turk ruler **Shams-ud-din Iltutmish** during his raid on Ujjain.

Modhera, India's first 24x7 solar-powered village

- Modhera is going to be India's first village to become a **net renewable energy generator**.

- It will be the first modern village to have a **solar-based ultra-modern electric vehicle charging station**.
- It is India's first **grid-connected megawatt-hours (MWh) scale battery energy storage system**.
- People in Modhera would be saving 60% to 100 % on electricity bills.
- Modhera was well known for the **Sun temple**, now it will also be known as a solar-powered village.
- The heritage lighting and 3-D projection at the Sun Temple would operate on solar energy.
- The 3-D projection will inform visitors about the history of Modhera.

World's first CNG (Compressed Natural Gas) terminal

- The Prime Minister has laid the foundation stone for the "world's first CNG (Compressed Natural Gas) terminal" at Bhavnagar in Gujarat.
- It will be "world's first CNG (Compressed Natural Gas) terminal along with the world's **fourth largest lock gate system**."
- The CNG project is a part of an ambitious mega project of brownfield expansion of Bhavnagar port.
- The port will be built under the **BOOT (Build, Own, Operate and Transfer) policy** of the state government.
- The proposed development of a brownfield port terminal is planned in the northern part of existing Bhavnagar port in Gujarat.
- The primary objective of the CNG terminal will be to develop CNG receiving infrastructure facilities for India through Gujarat coast.
- The state-run GMB will continue to operate the berths on the south side of the port.
- CNG is natural gas compressed under pressure so that more of it occupies lesser volume in the fuel tank.
- It is a fuel gas mainly composed of methane (CH₄).
- CNG is compressed to a pressure of 200 to 250 kg/cm². In this compressed form, it occupies less than 1 percent of its volume at atmospheric pressure.

Ranipur Tiger Reserve : 4th Tiger Reserve in UP

- **Ranipur Tiger Reserve** under **Section 38(v)** of the Wild life (Protection) Act of 1972 became 4th Tiger Reserve in UP.

- Ranipur WS, was founded in 1977, is one of the attractions of Chitrakoot district in **Uttar Pradesh**.
- It is spread over 230 sq. km and is noted for its diverse wildlife, but is not very frequently visited by tourists because of the difficult access.
- The Ranipur TR has **tropical dry deciduous** forests and is home to fauna such as tigers, leopards, sloth bears, spotted deer, sambhar, chinkara and a number of birds and reptiles, the statement added.
- The Ranipur TR will be the fourth in UP, after Dudhwa, Pilibhit and Amangarh (buffer of Corbett Tiger Reserve).
- It will also be the first in the state's portion of the Bundelkhand region, which it shares with neighbouring Madhya Pradesh.
- RWS has no tigers of its own. But pugmarks of the animals are frequently seen there as tigers from nearby Panna frequent it.

'Neelakurinji' Bloom in Bababudangiri range of the Western Ghats

- The Neelakurinji flowers have turned the green patches of Bababudangiri range of the Western Ghats (Chandradrona Mountains) into purple-blue.
- Bathukamma flower festival is celebrated in Telangana and Andhra Pradesh as per Satavahana Calendar during the Navratri festival.
- Nilgiri Hills, which literally means the blue mountains, got their name from the purplish blue flowers of Neelakurinji that bloom only once in 12 years.
- It is a shrub of the **Acanthaceae family**.
- It is endemic to **Western Ghats, covering the slopes of Kerala, Karnataka and Tamil Nadu**.
- Besides the Western Ghats, Neelakurinji is also seen in the Shevroy in the Eastern Ghats, Sanduru hills of Bellary district in Karnataka.
- Karnataka has around 45 species of Neelakurinji and each species blooms at intervals of six, nine, 11 or 12 years.
- Locally known as Kurinji, the flowers grow at an altitude of 1,300 to 2,400 metres.
- Their scientific name is '**strobilanthes kunthiana**'.

Ram Setu

- Ram Setu has been at the centre of several controversies and legal cases.
- It is also known as Adam's Bridge.

- It is a 48-km chain of limestone shoals between Rameswaram on India's southeast coast and Mannar Island near Sri Lanka's northwest coast.
- The structure has significance in both Hindu and Muslim mythology.
- While Hindus believe this is the bridge (setu) built by Lord Ram and his army to cross to Lanka and fight Ravan.
- As per Islamic legend, Adam used this bridge to reach Adam's Peak in Sri Lanka, where he stood on one foot for 1,000 years in repentance.
- Scientists believe Ram Setu is a natural structure formed due to tectonic movements and sand getting trapped in corals.
- A project titled Sethusamudram Shipping Canal Project was mooted by the Government of India.
- The Sethusamudram project has been opposed on environmental grounds.

Restoration of Thamirabarani River

- District administration of Tirunelveli in Tamil Nadu along with Bengaluru-based non-profit ATREE are using a 'hyper local' approach to restore one of south Asia's oldest rivers, the Thamirabarani.
- TamiraSES project is a district level initiative, which aims to restore the Social Ecological Systems of Tamiraparani river riverscape from head-waters to the estuary to enable conditions for native biodiversity to thrive and maintain and enhance multiple ecosystem services to local stakeholders.
- The Thamiraparani is the only perennial (continuous flow of water) river in Tamil Nadu.
- This is the shortest river in the state, It originates in the Pothigai Hills of the Western Ghats in the Tirunelveli district.
- The river flows through Tirunelveli and then neighbouring Thoothukudi and ends in the Gulf of Mannar at Punakayil.
- The river supports Nilgiri marten, slender loris, lion-tailed macaque, white spotted bush frog, galaxy frog, Sri Lankan Atlas moth and the great hornbill.
- Besides the ecosystem services it provides, the river also has historical value for the people of the state.
- It is mentioned extensively in Sangam Era literature.

Ambedkar Circuit

- Government announced a special tourist train to cover the "**Ambedkar Circuit**".
- The Ambedkar Circuit was **first proposed in 2016 by the Central Government**.

- It includes-
 - ▶ Janma Bhoomi (Ambedkar's birthplace in Madhya Pradesh)
 - ▶ Deeksha Bhoomi (place in Nagpur where Ambedkar embraced Buddhism)
 - ▶ Mahaparinirvan Bhoomi (the place in Delhi where he passed away)
 - ▶ Chaitya Bhoomi (the place of his cremation in Mumbai)
- The proposed Ambedkar Circuit will be similar to the recently launched **Ramayana Circuit and Buddhist Circuit**.
- Currently, special trains are available for the Ramayana, Buddhist, and North East Circuits. Now, the Ambedkar circuit is expected to be the fourth.
- It aims to attract wider tourist base besides Dalit community, who frequent these key destinations as a pilgrimage.
- The journey would cover meals. Ground transportation and entry to historic sites concerning Ambedkar.

Kyrgyzstan-Tajikistan conflict

- The clashes are replaying old pre- and post-Soviet era legacies.
- The creation of the Soviet Union saw the large-scale redistribution of livestock to collective and state farms, which upset the existing status quo.
- Unfortunately, there was only so much land to go around.
- The Tajik territory of Batken saw their livestock increase, and with scarce grazing land, agreements were signed between the two populations over the utilisation of Kyrgyz territory by the Tajiks' livestock.
- The borders of the two republics were demarcated under Joseph Stalin's leadership.
- Historically, the Kyrgyz and Tajik populations enjoyed common rights over natural resources.
- The issue of the delimitation of the border is a relic of the Soviet era.
- While regular talks have tried to resolve the issue, one of the crucial points of disagreement remains over the map which should be used for demarcation purposes.
- Almost half of its close to a 1000 km border is disputed.



India's First Swachh Sujal Pradesh

- Andaman and Nicobar islands were awarded as **India's First Swachh Sujal Pradesh**. This union territory of India ticked off all the key points of being **Swachh and Sujal**.
- The Indian states and union territories must draw inspiration from the distant Andaman and Nicobar Islands located far from the country's mainland.
- There are 266 villages and 62,000 rural households and 9 blocks distributed among the 3 districts.
- The Union territory made sure that **all the 368 schools, 558 Anganwadi centres, and 292 public institution centres** received piped water.
- On World Water Day, 22 March 2021, Andaman and Nicobar Islands was declared to have achieved 100% coverage of rural households with tap water connection.
- It became the third State/UT in the country to achieve 100% coverage of rural households with tap water supply after Goa and Telangana.

Swachh and Sujal Key Components

- The key components which have to be ticked off for a state to become Swachh and Sujal:

- Every household in every village should have access to clean drinking water from the tap.
- Every household in every village should receive regular water supply of prescribed quality.
- All schools, anganwadi centres and other public institutions too should receive tap water.
- Villages that use toilets instead of open defecation are known as **"open defecation free" (ODF) areas**.
- A village is referred to as a **"ODF Plus Village"** if it keeps its **Open Defecation Free (ODF)** designation, assures the management of solid and liquid waste, and is clean.
- The three categories of ODF Plus villages are-**
 - Aspiring
 - Rising
 - Model

Heritage camp at Ramappa temple

- A 12-day World Heritage Volunteers (WHV) Camp-2022 organised under the aegis of the Warangal-based Kakatiya Heritage Trust at the historic Ramappa temple in Palampet of Mulugu district.
- Ramappa Temple, also known as the Rudreshwara

(Lord Siva) temple, is a UNESCO World Heritage Site located in the state of Telangana.

- It lies in a valley in Palampet village of Venkatapur Mandal of Mulugu district, a tiny village long past its days of glory in the 13th and 14th centuries.
- An inscription in the temple dates it to the year 1213 CE and says it was built by a Kakatiya General Recharla Rudra Deva, during the period of the Kakatiya ruler Ganapati Deva.
- This temple was constructed by **Kakatiya king Ganapati Deva's general Recharla Rudra**.
- Kakatiya Dynasty was the South Indian dynasty that ruled Andhra Pradesh in India from 1083 CE to 1323 CE.
- Ramalingeswara Swamy** is the presiding deity of this temple.
- Marco Polo**, during his visit to the Kakatiya Empire, allegedly called the temple “**the brightest star in the galaxy of temples**”.
- The foundation is built with the “**sandbox technique**”, the flooring is granite, and the pillars are basalt.
 - The technique involved filling the pit — dug up for laying the foundation — with a mixture of sand-lime, jaggery (for binding) and karakkaya (black myrobalan fruit) before the buildings were constructed on these ‘sandboxes’.
 - The sandbox in the foundation acts as a cushion in case of earthquakes.
 - Most of the vibrations caused by earthquakes lose their strength while passing through the sand by the time they reach the actual foundation of the building.
- The lower part of the temple is red sandstone** while the white gopuram is built with light bricks that reportedly float on water.
- The Kakatiya temples, dedicated mostly to Siva**, reveal in their construction a happy blending of the styles of North India and South India which influenced the political life of the Deccan.

They adopted both the **North Indian Nagara Bhumija style and the South Indian Dravida style**.

- The most important of these temples are those at **Palampet (Ramappa temple)**, **Hanamkonda (Thousand Pillared temple)** and the temples in the Warangal fort including the big ruined temple complex — **Swayambhunadha temple**.

Kuno National Park

- Eight cheetahs (3 male, 5 Female) have landed in Gwalior from Namibia's capital Windhoek and

reintroduced in Kuno National Park.

- Kuno National Park is a national park in MP established in 1981 as a wildlife sanctuary. In 2018, it was given the status of a national park. It is part of the Khathiar-Gir dry deciduous forests.
- Kuno Palpur Wildlife Sanctuary is underway to become India's second home for the Asiatic lion.
- The Asiatic cheetah was declared extinct in India in 1952 and is a critically endangered species surviving only in Iran.
- In 1947, there were confirmed records of the cheetah's presence in India, but the three surviving males were gunned down by Maharaja Ramanuj Pratap Singh Deo of Surguja state in what is now Guru Ghasidas National Park in Chhattisgarh.
- Reasons for extinction in India: Human-wildlife conflict, loss of habitat and loss of prey, and illegal trafficking.

◦ African Cheetah:

- **Scientific Name:** *Acinonyx jubatus jubatus*
- **Habitat:** African Savannahs
- **Characteristics:** They are bigger in size as compared to **Asiatic Cheetah**.
- **Conservation Status:**
- **IUCN status:** Vulnerable
- **CITES Appendix I**

◦ Asiatic Cheetah:

- **Characteristics:** Smaller and paler than the African cheetah.
- **IUCN status:** Critically Endangered
- **Status in India:** Declared extinct in India in 1952
- **Distribution:** Only 40-50 and found only in Iran

Varanasi nominated as the first SCO Tourism and Cultural Capital

- The city of Varanasi** has been nominated as the **first-ever SCO Tourism and Cultural Capital** during the period 2022-2023 at the **22nd Meeting of Shanghai Cooperation Organisation (SCO) Council of Heads of State in Samarkand, Uzbekistan**.
- This would **promote tourism, cultural and humanitarian exchanges between India and other SCO member states**.
- Under this framework, various events will be organized in Varanasi in 2022-23.

- These events bring together musicians, authors, scholars, Indologists and artists as well as other invited guests.
- The regulations for the nomination of the SCO Tourism and Cultural Capital were adopted at the **Dushanbe SCO Summit in 2021**.
- The purpose of this initiative is to promote cooperation between the SCO members in the area of culture and tourism.
- It also highlights India's ancient civilizational links with SCO members, especially those from Central Asia.

About Shanghai Cooperation Organisation

- The Shanghai Cooperation Organisation (SCO) is a **political, economic and security alliance established in 2001**.
 - It is headquartered in Beijing.
 - Its members are China, India, Kazakhstan, Kyrgyzstan, Pakistan, Russia, Tajikistan and Uzbekistan.
- India and Pakistan became members in 2017**.
 - The SCO is currently **the world's largest regional organisation**.

Kashmir's Manasbal Lake

- After a gap of 33 years, Manasbal Lake is once again open for training drills after raging militancy forced the Navy to abandon it.
- The Training area was suspended during the inception of militancy in the 1990s.
- The Manasbal Lake, located in **central Kashmir's Saffpora area in Ganderbal district**.
- It's a freshwater lake** with picturesque hills and pristine waters.
- The Mughal Garden, called the Jaroka Bagh, (meaning bay window) built by Nur Jahan** overlooks the lake.
- Biodiversity:** The lake is a good place for birdwatching.
 - Flora:** macrophytes and phytoplankton.
 - Fauna:** zooplankton, benthos and fish.
- Issues:** Eutrophication (nutrient-induced increase in phytoplankton productivity) and pollution.

Mohenjo-daro's world heritage tag

- Pakistan's Department of Archaeology** has said that Mohenjo-daro might be removed from the world

heritage list, if urgent attention towards its conservation and restoration is not given.

- Mohenjo-daro**, a group of mounds and ruins, is a **5000-year-old archaeological site** located about **80-km off the city of Sukkur**.
- It comprises the remnants of one of **two main centres** of the **ancient Indus Valley Civilisation**, the other one being **Harappa, located 640 km to the northwest, in Punjab province**.
- Mohenjo-daro**, which means '**mound of the dead**', was one of the oldest cities of the world.
- Mohenjo-daro**, known to be a model planned city of the ancient civilisation, the houses here had **bathrooms, toilets and drainage system**.
- The sheer size of the city, and its provision of public buildings and facilities, suggests a high level of social organization.
- Though in ruins, the walls and brick pavements in the streets are still in a preserved condition.
- The ruins of the city remained undocumented for around 3,700 years, until 1920, when **archaeologist RD Banerji** visited the site.
- Its excavation started in 1921 and continued in phases till 1964-65. The site went to Pakistan during Partition.

Losing world heritage tag

- There are around 1,100 UNESCO listed sites across its 167 member countries.
- Last year, the World Heritage Committee, holding its 44th session in China, decided to delete the property '**Liverpool – Maritime Mercantile City**' (UK) from the World Heritage List, due to "**the irreversible loss of attributes conveying the outstanding universal value of the property**".
 - Liverpool** was added to the **World Heritage List in 2004** in recognition of its role as one of the **world's major trading centres** in the **18th and 19th centuries** – and its **pioneering dock technology, transport systems and port management**.

Borra Caves In Andhra: A Rare Geological Formation

- Borra Caves** is known as the hidden gem of the south,
- This geological delight in India is located near the **Ananthagiri hills of the Eastern Ghats range in Alluri Sitharaman Raju district, in Andhra Pradesh**.
- Borra Caves** are ranked amongst the **deepest as well**

as the largest caves in India that were formed millions of years ago.

- These caves are considered to be among a rare geological formation and these were formed by the water activity by the **Gosthani river**.
- Borra caves go as deep as 80 meters in depth and are karstic limestone structures.
- The stalactites and stalagmites in the caves have various interesting shapes-there are **formations resembling Shiva-Parvati, Mother and Child, the beard of a saint, a crocodile and even a stalagmite in the shape of a human brain**.

India's First-Ever 'Night Sky Sanctuary' in Ladakh

- India's first-ever 'night sky sanctuary' will be set up in Hanle, Ladakh.
- This is a unique and first-of-its-kind initiative by the Indian government.
- The proposed dark sky reserve will be located at Hanle, Ladakh.
- The night sky sanctuary will be set up as part of the Changthang Wildlife Sanctuary, the world's second-largest nature reserve.
- The new project will be one of the world's highest-located sites for optical, infrared, and gamma-ray telescopes.
- It will give boost in astro-tourism in India.
- Hanle is located in Ladakh's cold desert region, away from any form of human disturbance, and has clear sky and dry weather conditions throughout the year, it is best suited for the dark sky reserve.

Anang Tal lake

- Centre orders restoration of historic 1000-year-old Anang Tal lake in Delhi's Mehrauli.
- The lake is situated in Mehrauli, Delhi and is claimed to be created by Tomar King, Anangpal II, in 1,060 AD.
- He is known to have established and populated Delhi in the 11th century.
- The millennium old Anang Tal signifies the beginning of Delhi.
- Anang Tal has a strong Rajasthan connection as Maharaja Anangpal is known as nana (maternal grandfather) of Prithviraj Chauhan whose fort Rai Pithora is on the list of the ASI.

New Ramsar Sites in India

- India has designated 10 more wetlands as Ramsar sites, taking the total tally of Ramsar Sites in India to 64.
- The 10 new sites include **Six (6) sites in Tamil Nadu and One (1) each in Goa, Karnataka, Madhya Pradesh and Odisha**.
- These are the 6 sites in Tamil Nadu -
Koothankulam Bird Sanctuary.
Gulf of Mannar Marine Biosphere Reserve.
Vembannur Wetland Complex.
Vellode Bird Sanctuary.
Vedanthangal Bird Sanctuary.
Udhayamarthandapuram Bird Sanctuary.
- Satkosia Gorge in Odisha.
- Nanda Lake in Goa.
- Ranganathittu Bird Sanctuary in Karnataka.
- Sirpur Wetland in Madhya Pradesh.
- The Conservation and Sustainable use of Wetlands was signed at a **city of Iran called Ramsar in 1971**. It is also known as the **Convention on Wetlands**.
- Ramsar Convention is a convention on wetlands that was signed in 1971 in the Iranian city of Ramsar.

Burhanpur In Madhya Pradesh Is 1st Har Ghar Jal Certified District

- Burhanpur, a Madhya Pradesh district, became the first 'Har Ghar Jal' (water connection to every house) certified district in the country.

About Har Ghar Jal scheme

- **Launched in:** 2019
- The Har Ghar Jal scheme aims to provide drinking water to all households.
- The scheme is a 'bottom up' approach where community plays a vital role from planning to implementation, management, operation and maintenance.
- To achieve this,
 - ▶ Village Water & Sanitation Committee (VWSC)/ Pani Samiti are being constituted and strengthened
 - ▶ Implementation Support Agencies (ISAs) are engaged to support village communities in programme implementation and create awareness among people.
- Burhanpur is also known as the 'Darwaza of Dakhin' in Madhya Pradesh.

- Only 37,241 rural households (36.54 per cent) out of a total of 1,01,905 households in Burhanpur had potable drinking water through tap connections at the time of the launch of Jal Jeevan Mission on 15th August 2019.
- Now all its 1,01,905 rural households have functional water tap connections.

Singalila National Park

- The Singalila National Park in West Bengal, will soon get 20 species of Red pandas.

- Singalila National Park is located on the **Singalila Ridge** at an altitude of more than 7000 feet above sea level, in the Darjeeling district of West Bengal.
- It is well known for the trekking route to **Sandakphu** that runs through it.
- The Singalila area in Darjeeling was purchased by the British Government from **Sikkim Durbar** in 1882, and notified as a Reserve Forest under the **Indian Forest Act 1878**.
- It was notified as a **National Park** in 1992 and was also officially opened up for tourism.



- The number of red pandas has been **declining** in the wild, even in the **Singalila and Neora Valley National Parks**, the two protected areas where the mammal is found in the wild in West Bengal.
- Recent studies estimate that there are **38 of them in Singalila and 32 in Neora**.
- The zoological park which is at the centre of the **Red Panda Augmentation Programme**.
- Conservation breeding of red pandas is only one part of the programme.

Mangarh Hillock

- Mangarh hillock in Rajasthan declared a monument of national importance as a tribute to **1500 Bhil tribal freedom fighters**.
- Mangarh Hillock is located in Banswara District, Rajasthan.

- It is situated in the Aravali mountains on the Rajasthan-Gujarat border.
- It is a site of a tribal uprising where a massacre of over 1500 Bhil tribal freedom fighters took place in 1913. Hence, this place is also known as the **Adivasi Jallianwala**.

World's first fishing cat census done in Chilika

- The Chilika Lake, Asia's largest brackish water lagoon, has 176 fishing cats, according to a census done by the Chilika Development Authority (CDA) in collaboration with the Fishing Cat Project (TFCP).
- Fishing Cat Census** was Conducted by Chilika Development Authority(CDA) in collaboration with The Fishing Cat Project(TFCP).
- This is the world's first population estimation of the

fishing cat, which has been conducted outside the protected area network.

- The Census has found that Chilika Lake which is Asia's largest brackish water lagoon has 176 Fishing Cats.

Conservation status

- IUCN Red List: Endangered
- CITES: Appendix II
- Indian Wildlife (Protection) Act, 1972: Schedule I

About Chilika Lake

- Chilika Lake is a brackish water lagoon, spread over the Puri, Khurda and Ganjam districts of Odisha.
- It is located at the mouth of the Daya River, flowing into the Bay of Bengal, covering an area of over 1,100 km².
- It is the largest coastal lagoon in India and the largest brackish water lagoon in the world after The New Caledonian barrier reef.
- It has been listed as Ramsar Site as well as a tentative UNESCO World Heritage site.

Bhil Pradesh: Demand for a Separate State

- Demands for a “**Bhil Pradesh**”, a separate state for tribal people in western India, have begun to be raised again.
- Bhil social reformer and spiritual leader Govind Guru first raised the demand for a separate state for tribals back in 1913 after the Mangarh massacre.
- The massacre, which took place six years before Jallianwalla Bagh and is sometimes referred to as the “**Adivasi Jallianwala**”.
- It saw hundreds of Bhil tribals being killed by British forces on November 17, 1913 in the hills of Mangarh on the border of Rajasthan and Gujarat.
- Post-Independence, the demand for Bhil Pradesh was raised repeatedly.
- Earlier, the Dungarpur, Banswara, Udaipur region in Rajasthan and Gujarat, MP, etc. was part of a single entity.
- But post-Independence, the tribal majority regions were divided by the political parties, so that the tribals don't organise and unite.

Bhil tribe

- The word Bhil is derived from “**Veel**”, which means “**bow**” in the Dravidian language.
- The Bhil tribe is called “**Dhanush Purush of India**” because they are highly adept at learning Dhanush.
- Bhils are a group of tribal Indians scattered throughout India from Gujarat in the west to Tripura in the Far East.
- As of 2013, they were the largest tribal group in India with the majority living in the states of Gujarat, Madhya Pradesh, Rajasthan and Chhattisgarh.
- Bhils have a rich and unique culture. The Bhilala subdivision is known for its Pithora painting.
- Ghoomar is a traditional folk dance of the Bhil tribe.
 - ▶ Ghoomar is the symbol of femininity.
 - ▶ The young women take art in this dance and declare that they are stepping into women's shoes.

Sela Tunnel

- Strategically-significant Sela Tunnel project in Arunachal Pradesh is nearing completion.
- The Sela tunnel was announced by the government in 2018.
- The Sela Tunnel is the **longest bi-lane road tunnel** in the world.
- It is being built on the 317km long **Balipara-Charduar-Tawang (BCT)** road which connects West Kameng, East Kameng and Tawang districts of Arunachal Pradesh to the rest of the country.
- It is located in the West Kameng district of Arunachal Pradesh.
- The project is being executed by the **Border Roads Organisation**.
- This will be the longest twin-lane tunnel at an altitude of **13,800ft near the Indo-China border**.
- The project includes two tunnels and a link road.
 - ▶ Tunnel 1 is 980m long
 - ▶ Tunnel 2 which is 1555m long is a twin tube tunnel.
 - ▶ Tunnel 2 has one bi-lane tube for traffic and one escape tube for emergencies.
 - ▶ The link road between the two tunnels will be 1,200 metres.

- Tunnels longer than 1500 m need to have an escape passage alongside.
- The total length of the project, including the tunnels, the approach and the link roads, will be around 12 km.
- The tunnels are coming up through two ridges west of Sela.

Rajasthan's Ramgarh Vishdhari Sanctuary

- The Ramgarh Vishdhari Sanctuary in Rajasthan was notified as India's 52nd tiger reserve.
- **This is Rajasthan's fourth tiger reserve after Ranthambore, Sariska and Mukundra.**
- Ramgarh Vishdhari wildlife sanctuary is located in Bundi district of Rajasthan.
- It was designated as a wildlife sanctuary in 1982.
- **Area:** The area comprising two forest blocks of Bhilwara and territorial forest blocks of Bundi and Indargarh has been identified as a Tiger Reserve.
The Ramgarh Vishdhari Sanctuary will be spread across 1,071 sq kms.
- **Significance:** Ramgarh sanctuary falls under the buffer zone of Ranthambore Tiger Reserve (RTR).
- **Flora:** It consists of Dhok, Khair, Salar, Khirni trees with some Mango and Ber trees.
- **Fauna:** It consists of birds and animals like Leopard, Sambhar, Wild boar, Chinkara, Sloth bear, Indian Wolf, Hyena, Jackal, Fox, deer and Crocodile.

Asurgarh is Odisha's oldest fortified settlement

- The Asurgarh fortified settlement, which was excavated by the Archaeological Survey of India (ASI) in Odisha's Kalahandi district, has been ascertained to be the oldest among the major fortified settlements in the State.
- It dates back to the ninth century BC.
- The landscape of Asurgarh attracted iron using people to begin their settlement around the eighth-ninth century BC.
- The excavation revealed three periods of human occupation without any hiatus.
- This place was once inhabited by urbanised and civilised people of 500 BC to 500 AD and served as a political and cultural hub.
- It has four entrances in each direction and each entrance enshrines a different deity.

- The east entrance is presided by Goddess Ganga, whereas the west entrance is ruled by Kala Pahad.
- The **Vaishnavi image** is installed in the south and Lord Budharaja is worshipped in the north direction.
- The fort's presiding deity is **Goddess Dokari or Old Lady** who is enshrined inside the fort.

World's Highest Tunnel at Shinku La Pass

- The **world's highest tunnel** will be constructed by the **Border Roads Organisation (BRO) at Shinku La Pass at 16,580 feet**. This tunnel will connect **Himachal Pradesh to Ladakh**.
- The construction of this tunnel by the **Border Roads Organisation (BRO) will begin by July 2022**. By the year 2025, the construction of this tunnel will be completed.
- This tunnel will **connect Ladakh's Zaskar Valley to Himachal Pradesh**.
- **Project Yojak** has been set up by the central government to execute this ambitious project.
- **The tunnel's south portal will be at Shinku La.**
- **The tunnel's north portal will be at Lakhang.**
- **Shinku-La Tunnel, also known as Shinkula Tunnel or Shingo-La Tunnel**, is a planned motorable tunnel linking **Himachal Pradesh's Lahaul Valley and Ladakh's Zaskar Valley in Northern India**.

New Navy Task Force to Protect Red Sea Region

- Combined Task Force 153 would focus on international maritime security and capacity-building efforts specifically in the
- Red Sea
- Bab el-Mandeb
- Gulf of Aden

Combined Maritime Forces

- Combined Maritime Forces is a U.S.-led naval partnership with 34 nations.
- It has three other task forces:
 - ▶ one for counter piracy (CTF 151)
 - ▶ one for maritime security operations inside the Arabian Gulf (CTF 152)
 - ▶ one for maritime security outside the Arabian Gulf (CTF 150)

- The new task force will allow CTF 150 to keep its focus to just the Gulf of Oman, the North Arabian Sea, and the waters from the North Arabian Sea down to the Yemen-Oman border.

Red Sea

- The Red Sea is a major shipping route leading up to the Suez Canal, and is surrounded by several countries, including Saudi Arabia, Egypt, Djibouti, and Yemen.
- The region faces security issues including smuggling of drugs and weapons, and threats posed by Houthi rebels from Yemen, who have launched attacks on Saudi Arabia and a missile into the Red Sea itself in March.

Jallianwala Bagh

- **The Jallianwala Bagh Massacre**, also known as the **Massacre of Amritsar**, was an incident that took place on **April 13, 1919**.
- **On 13 April**, we pay tribute to the martyrs who have sacrificed their lives in **Jallianwala Bagh at Amritsar**.
- **On 13 April 1919**, people gathered at **Jallianwala Bagh (Amritsar)** to protest against the arrest of the **two nationalist leaders, Satya Pal and Dr Saifuddin Kitchlew**.
These people were protesting peacefully against the **Rowlatt Act 1919**.
- **Suddenly**, a **British military officer, General Dyer**, entered the park with his troops. Without even giving a warning to the people to disperse, **he ordered his troops to fire at the unarmed crowd for ten minutes** and when their ammunition was exhausted, they left.
- **In those ten minutes**, according to the estimates of the congress, **about a thousand persons were killed and about 2000 wounded**.

What was the Rowlatt Act 1919?

- **During World War I (1914-18)** the British government of India enacted a series of **repressive emergency powers that were intended to combat subversive activities**.
- **In this context**, this act was passed on the recommendations of the **Sedition Committee** chaired by Sir Sidney Rowlatt.
- It gave the government enormous powers to **repress political activities and allowed detention of political prisoners without trial for two years**.
- The bullet marks can still be seen on the walls of the **Jallianwala Bagh** which is now a national memorial.

- **About 21 years later, on 13 March 1940**, **Udham Singh**, an Indian revolutionary, shot **Michael O'Dwyer** dead who was the **Lt. Governor of Punjab** at the time of the **Jallianwala Bagh massacre**

Odisha's Barbara forest set for ecotourism push

- The government has decided to open **Barbara Forest** in Odisha for public to boost eco-tourism.
- The **Barbara forest** is located near **Chilika lake** in coastal Odisha touching three districts **Khordha, Nayagarh and Ganjam**.
- It is dubbed as **Asia's largest teak and sal forest**.
- It is the only forest in India guarded by the jawans of **Central Reserve Police Force** (for protecting forest resources).
- It is named after a **British woman, Barbara** who had been killed by a tiger in the late 19th century while she was with her husband on a hunting expedition.
- The thick forests of **Barbara** are inhabited by giant squirrels, making it a major contender to become a sanctuary for giant squirrels.
- One can find other species like **sambar, deer, mouse deer and bison** in the forest.

Puri Heritage Corridor Project

- The Odisha Government is expected to soon lay the foundation stone of the much-awaited **Puri heritage corridor**, which is being developed at a cost of **Rs 800 crore**.
- Conceived in 2016, the **Puri Heritage Corridor Project** was unveiled in **December 2019** to transform the holy town of **Puri** into an international place of heritage.
- The project includes redeveloping major portions of the holy town and in the vicinity of the **Jagannath temple** for visitors and tourists.
- The project will include
 - ▶ **Shree Jagannath Temple Administration (SJTA)** building redevelopment
 - ▶ a 600-capacity **Srimandir** reception centre
 - ▶ **Jagannath cultural centre**
- The project is a part of the **Augmentation of Basic Amenities and Development of Heritage and Architecture (ABADHA)** scheme for developing Puri as a world-class heritage city.

About Lord Jagannath Temple

- The Jagannath Temple of Puri is an important Hindu temple dedicated to Lord Jagannath, a form of Vishnu located on the eastern coast of India, in the state of Odisha.
- It is believed to have been constructed in the **12th century by King Anantavarman Chodaganga Deva** of the Eastern Ganga Dynasty.
- **Anantavarman Chodagangadeva** is also known for building the Sun temple of Konark and Puri is considered as the cultural capital of Odisha.
- Jagannath Puri temple is called '**Yamanika Tirtha**' where, according to the Hindu beliefs, the power of '**Yama**', the god of death, has been nullified due to the presence of Lord Jagannath.
- This temple was called the "**White Pagoda**" and is a part of **Char Dham pilgrimages (Badrinath, Dwaraka, Puri, Rameswaram)**.
- There are four gates to the temple-Eastern '**Singhdwara**' which is the main gate with **two crouching lions**, Southern '**Ashwadwara**', Western '**Vyaghra Dwara**' and Northern '**Hastidwara**'. There is a carving of each form at each gate.
- In front of the entrance stands the **Aruna stambha or sun pillar**, which was originally at the **Sun Temple in Konark**.
- The temple is famous for its **annual Rath Yatra**, or chariot festival.

Konark Sun Temple

- **Konark** is going to be the **first model town in Odisha to shift from grid dependency to green energy**. The **Odisha government** has planned to run the **Sun Temple completely on solar energy**.
- The **Sun Temple** built in the **thirteenth century** was conceived as a **gigantic chariot of Sun God**, with **twelve pairs of exquisitely ornamented wheels** pulled by **seven pairs of horses at Konark on the coastline of Odisha, India**.
- "**Konarka**", the place bears a name composed of **two World elements: Kona meaning corner and ARKA meaning the Sun**.
- The Sun god worshiped in Ark Kshetra is also called Konark.
- The temple is attributed to king **Narasimhadeva I** of the Eastern Ganga Dynasty about **1250 CE**.
- It is dedicated to the Hindu Sun God **Surya**.

- This temple was called the "**Black Pagoda**" in European sailor accounts.
- It forms part of the golden triangle of Odisha, along with Puri and Bhubaneswar, and attracts tourists, pilgrims, and history and art lovers.
- It was declared a **UNESCO world heritage site** in **1984**.
- The alignment of the **Sun Temple is in the east-west direction**.

Himachal Pradesh gets 1st Biodiversity Park at Mandi

- **Himachal Pradesh** got the **first biodiversity park** to make its contribution towards the **conservation of endangered Himalayan herbs**.
- This park is set to come up at **Mandi's Bhulah valley**.
- The biodiversity park is set up under the **National Mission on Himalayan Studies (NMHS)** by HP's forest department.
- The aim of the park is to **link tourism activities along with extending new opportunities for researchers to conduct in-depth exploration of various medicinal herbs** found in the Himalayas that are on the verge of extinction.

What are Biodiversity parks?

- Biodiversity is the variety of **plant and animal life in the world or in a particular habitat**.
- Biodiversity is measured by **two major components: species richness, and species evenness**.
- Biological diversity is a precious resource intended for the continued existence of mankind, and hence, conserving biodiversity is concerned **with restoring the equilibrium between humans & the atmosphere**.
- **Important role of Biodiversity Parks include-**
 - ▶ A nature reserve for the conservation of the natural heritage of the city.
 - ▶ Enhancing the quality of the urban environment.
 - ▶ Serving as a hub for education, cultural and conservation activities.
 - ▶ Connecting biodiversity to the city and people.
 - ▶ Promoting eco-tourism.
 - ▶ Creating livelihood for local communities.
 - ▶ Preserving the rare endemic and threatened plant and animal species of the area.

Atal Tunnel makes it to World Book of Records

- Atal Tunnel has officially been certified by the **World Book of Records** as the 'World's Longest Highway Tunnel above 10,000 Feet.
- Length:** 9.02 km



- Connecting:** Manali to Lahaul-Spiti valley
- Constructed by:** Border Roads Organisation (BRO).
- It is a 9.02 Km long tunnel which connects Manali to Lahaul-Spiti valley throughout the year.
- Earlier the valley was cut off for about 6 months each year owing to heavy snowfall.
- It is at an altitude of 3000 Mtrs (10,000 Feet) from the Mean Sea Level (MSL).
- The tunnel reduces the road distance by 46 Kms between Manali and Leh and the time by about 4 to 5 hours.
- The South Portal (SP) of Atal Tunnel is located at a distance of 25 Km from Manali at an altitude of 3060 Mtrs.
- The North Portal (NP) of the tunnel is located near village Teling, Sissu, in Lahaul Valley at an altitude of 3071 Mtrs.

Kaziranga National Park

- Kaziranga National Park in Assam, home to the

largest-population of the one-horned rhinoceros in the world, is releasing more carbon than it is absorbing.

- Location:** Spread over **Golaghat and Nagaon** districts of Assam **Kaziranga National Park** lies at the edge of eastern Himalayas.
- Origin:** The park owes its existence to the conservation efforts of **Mary Curzon** and her husband **Lord Curzon**, then **Viceroy of India**.
 - It became a **reserve forest** in **1904** primarily to protect the declining population of Rhinos.
 - Assam National Park Act** was passed by the Assam Government in 1968, declaring Kaziranga a **designated national park** with an area of 430 sq km.
 - An additional area of 429 sq km was added later to provide an extended habitat to the wild animals.
- Central Government recognized it as a **national park** in 1974.
- Kaziranga National Park got the status of a **tiger reserve** in 2006
- Kaziranga National Park is a **UNESCO World Heritage Site**.
- The Kaziranga National Park in Assam is home to the threatened one-horned Rhino.
- Other important species:** Wild Asiatic Water Buffalo and Eastern Swamp Deer, leopards, Royal Bengal Tigers, two of the largest snakes in the world (the Reticulated Python and Rock Python), King Cobra (the longest venomous snake in the world)



Punaura Dham included in Ramayana circuit

- Ministry of Tourism has included Punaura Dham in the Ramayana circuit of Swadesh Darshan Scheme.

- **Punaura Dham, considered to be the birthplace of Hindu Goddess Sita.**
- **The destination of Punaura Dham** has been recently included under **PRASHAD Scheme of the Ministry of Tourism.**
- **Ramayana Circuit is one of the fifteen thematic circuits** identified for development under the Swadesh Darshan scheme of the Ministry of Tourism.
- The destinations under the circuit will be **developed by bridging infrastructural gaps like provision of drinking water, accommodation facilities, etc.**
- The scheme will be a joint effort of the **states and the central government.** It has a larger aim of **providing job opportunities to local artisans, as it promotes local art and craft.**
- **Then the 15 places will be connected to form a circuit.** The places are-
 - ▶ Ayodhya, Nandigram, Shringverpur & Chitrakoot (Uttar Pradesh)
 - ▶ Sitamarhi, Buxar & Darbhanga (Bihar)
 - ▶ Chitrakoot (Madhya Pradesh)
 - ▶ Mahendragiri (Odisha)
 - ▶ Jagdalpur (Chattisgarh)
 - ▶ Nashik & Nagpur (Maharashtra)
 - ▶ Bhadrachalam (Telangana)
 - ▶ Hampi (Karnataka)
 - ▶ Rameshwaram (Tamil Nadu).

Hoysala Temples in Karnataka

- India has finalised the **Hoysala Temples in Karnataka** as its nominations for consideration in the **World Heritage Sites List for 2022-23.** The **Hoysala temples in Belur and Halebeedu in Hassan district and Somanathapura in Mysuru district have been nominated.**
- They were finalised by the **Union Ministry of Culture and Archaeological Survey of India (ASI).**
- The Hoysalas temples of Belur, Halebid and Somnathapur were reportedly built in the 12th-13th centuries.
- Hoysala architecture is the building style that was developed by architects under the rule of the Hoysala Empire between the 11th and 14th centuries.
- The Hoysala influence was at its peak in the **13th century and several large and small temples built** during the era remain today as examples of the **Hoysala architectural style.**

- The Hoysala temples include Chennakesava Temple at Belur, the Hoysaleswara Temple at Halebidu and the Kesava Temple at Somanathapura.
- There are several other examples of Hoysala craftsmanship such as the temples at Hosaholalu, Belavadi, Amruthapura, Basaralu, Mosale, Arasikere, Nuggehalli and Kikkeri.
- The Hoysala temples are protected monuments under the **Archaeological Survey of India (ASI).** Their conservation and maintenance is done by ASI but the Karnataka state government will ensure the conservation of state-protected monuments around these three monuments.

Archaeological Survey of India (ASI)

- The ASI is the premier organisation for the **archaeological research and protection of the cultural heritage of the country.**
- The prime objection of ASI is to **maintain the archaeological sites, ancient monuments and remains of national importance.**
- The ASI Headquarters is in **New Delhi.**
- It was established in **1861 by Alexander Cunningham.**
- It regulates all archaeological activities as per the provisions of the **Ancient Monuments and Archaeological Sites and Remains Act, 1958.**
- It functions under the aegis of the **Union Ministry of Culture.**
- It also regulates the **Antiquities and Art Treasure Act, 1972.**

Ladakh's first biodiversity heritage site (BHS)

- Yaya Tso, known as birds' paradise for its beautiful lake has been proposed as Ladakh's first biodiversity heritage site (BHS).
- Yaya Tso is a nesting habitat for a large number of birds and animals, such as the **bar-headed goose, black-necked crane and brahmny duck.**
- It is located at an altitude of 4,820 metres.
- It also has the distinction of being one of the **highest breeding sites** of the black-necked crane in India.

Hubballi-Ankola railway project

- The **standing committee** of the National Board for Wildlife (NBWL) has directed the **Union environment ministry** to organise a workshop to

discuss the **Hubballi-Ankola railway line** project proposal in Karnataka.

- The project involves the **diversion of an area** of 595.64 ha of forest land for the construction of a new broad gauge railway line from Hubballi to Ankola.



- The proposed 168 km railway line passes through forests between **two major protected areas** – Kali Tiger Reserve and Bedthi Conservation Reserve.
- The project would also **cost 2.34 lakh trees**.

Munroe Thuruthu: The sinking island of Kerala

- A recent study revealed anthropogenic interventions as the main reason for the plight of Munroe Thuruthu residents, Kerala's first set of climate refugees.
- Munroe Thuruthu is slowly going under water
- Munroe Island is located 27 km away from the heart of Kollam.
- It is a string of eight islets at the confluence of the Ashtamudi Lake and the Kallada river.
- The island's decline began with the construction of the Thenmala dam.
- Located 70 km away and constructed in the 1960s under the Kallada Irrigation Project, the dam blocked the flow of fresh water as a result of sediments from the Kallada river — the main determinant of the land's fertility.
- Today the whole area has turned saline.

Mughal Garden renamed as Amrit Udyan

- The iconic Mughal Gardens at the Rashtrapati Bhavan in Delhi were renamed as the '**Amrit Udyan**'.

- As the Mughal Gardens become **the Amrit Udyan**, a part of the grand Azadi ka Amrit Mahotsav.
- The renaming has done to end the long legacy of **foreign invasions** in the country.
- The Mughal garden was made in the **charbagh structure** which was intended to create a representation of an earthly utopia – jannat – in which humans co-exist in perfect harmony with all elements of nature.
- The **roses** remain the star attraction of the **Rashtrapati Bhavan**.
- It has **rectilinear layouts**, divided in **four equal sections**; these gardens can be found across lands previously ruled by the Mughal.
- A defining feature of these gardens is the **use of waterways**, often to demarcate the various **quadrants of the garden**.
- These were not only crucial to maintain the flora of the garden; they also were an important part of its aesthetic.
- Fountains were often built, symbolising the "**cycle of life**."

Ahom burial sites: UNESCO World Heritage tag

- The Centre has decided to nominate Assam's **Charaideo Maidams**, the Ahom equivalent of the ancient Egyptian pyramids for the UNESCO World Heritage list.



- They belong to the late medieval (13th-19th century CE), built under the **mound burial tradition** of the Tai Ahom community in Assam.
- Charaideo, more than **400 km east of Guwahati**, was the **first capital of the Ahom dynasty** founded by Chao Lung Siu-Ka-Pha in 1253.
- The country is celebrating the 400th birth anniversary of **Lachit Barphukan**, a legendary Ahom general whose battle against the Mughals in 1671.

- Out of 386 Maidams or Moidams explored so far, 90 royal burials at Charaideo are the best preserved, representative of and the most complete examples of the mound burial tradition of the Ahoms.
- The Charaideo Maidams enshrine the mortal remains of the members of the Ahom royalty, who used to be buried with their paraphernalia.
- After the 18th century, the Ahom rulers adopted the **Hindu method of cremation** and began entombing the cremated bones and ashes in a Maidam at Charaideo.

Wayanad, the first district to provide basic documents tribals

- Wayanad becomes the **first district in the country** to provide basic documents and facilities to all tribes' people.
- The district administration has attained this achievement by providing 1,42,563 services to as many as 64,670 tribal beneficiaries as part of the **Akshaya Big Campaign for Document Digitisation (ABCD)** campaign.
- There are 26 campaigns across the district so far with the support of the **Revenue and Tribal Development departments**.
- The basic documents include **Aadhaar cards, ration cards, birth/death certificates, election ID cards, bank accounts and health insurance**.
- The campaign is aimed at ensuring basic documents to all citizens belonging to the Scheduled Tribes communities and these documents are **digitalised and saved in DigiLocker** accounts opened for them.
- Other services such as **income certificates, ownership certificates, age certificates, and applications for new pensions** are also provided at the camps organised under the programme.

Sinking of Joshimath

- Joshimath, the ancient Uttarakhand town has become a cause of concern. Though the town of Joshimath has been witnessing cracks emerging for the past two decades, things have escalated over a few days when the area was declared a disaster prone region.
- Joshimath is a busy town in **Chamoli district**.
- The region is the part of the Himalayan ecosystem.
- Despite a population of only about 23,000, it has been heavily built-on, with hotels, resorts, and a bustling market that caters mainly to tourists, pilgrims, trekkers and personnel of the army and the Indo-Tibetan Border Police (ITBP).

- After the **1962 India-China war**, Joshimath emerged as a place of strategic importance.
- It leads to villages along the **India-China border** and is also en route to Barahoti, a disputed territory along the border.
- The town is also a gateway to noted sites such as;



- The pilgrimage – **Badrinath for Hindus and Hemkund Sahib for Sikhs**;
- The **international skiing site of Auli**; and
- The **Valley of Flowers**, a UNESCO World Heritage site.
- Today, Joshimath is overly burdened with structures built without any regard for the land's load-bearing capacity.
- The signs of sinking first appeared in October 2021, when cracks continued to appear around town and residents resorted to repairs.
- The situation became particularly alarming towards the end of 2022 and the beginning of 2023, when large parts of the town experienced sudden land-sinking and several houses developed major cracks as well.

Reasons for Vulnerability of region:

- Joshimath is built on the deposits of an **old landslide**, which means the slopes can be destabilised even by slight triggers.
- The town is also in **Zone V**, denoting highest risk, in India's seismic zonation scheme.
- It lies between two thrusts, the **Main Central Thrust**

(MCT) and the Vaikrita Thrust (VT), and thus occupies a seismically active terrain.

Main Central Thrust (MCT) line:

- In simplest terms, the MCT is a crack or geological fault in Himalayas.
- It is formed due to the collusion of Indo-Australian plate and Eurasian plate.
- The area underneath the MCT is particularly very fragile due to frequent tectonic activities.
- And, therefore, seismic activities are very common in MCT areas.
- The MCT extends for over 2200 km across the Himalayas in northwest-southeast direction. Joshimath is located above the MCT.

- The M.C. Mishra committee's report of 1976 warned against heavy and unscientific construction in the town mentioning that, "Joshimath is a deposit of sand and stone, hence was not a suitable place for the coming up of a township.
- Vibrations produced by blasting and heavy traffic will also lead disequilibrium in natural factors."

1200-Year-Old Miniature Stupas

- Patna circle of the Archeological Survey of India (ASI) has discovered two 1200-year-old miniature votive stupas during landscaping activities.
- **Location:** It has been found near Sarai Tila mound within the premises of 'Nalanda Mahavihara', a world heritage site in Nalanda district in the state.
- The stupas, carved from stone, depict Buddha figures.
- The Nalanda Mahavihara site comprises the archaeological remains of a monastic and scholastic institution dating from the 3rd century BCE to the 13th century CE.
- It includes stupas, shrines, viharas (residential and educational buildings) and important art works in stucco, stone and metal.

Parasnath hills in Jharkhand

- After the Central government assured members of the Jain community that the sanctity of their holy place, **Sammed Shikharji on Parasnath hills** in Jharkhand will conserve, the members of the **Santhal tribe** in the State have staked claim to the hill as their **Marang Buru (hill deity)**.
- Recently, the **Jharkhand government** has decided to cover the Parasnath hills under Tourist spots of the state.

- After this decision, the Jain community across the country has shown discontent as the site belongs as a holy place to them.
- Following the history of the place, it is considered that the Shikharji also known as Sammed Shikharji is a pilgrimage site in **Giridih district, Jharkhand**.
- It is the most important **Jain Tirtha (pilgrimage site)** by both Digambara and Shwetambara, for it is the place where twenty of the twenty-four Jain Tirthankaras along with many other monks attained Moksha.

The Santhal Tribes:



- Santhal tribe is the **largest tribal community** in Jharkhand and has a sizeable population in other States like Bihar, Odisha, Assam and West Bengal.
- The tribe worships nature and over 40 lakh members of the community reside in Jharkhand.
- **The Santals are generally non-vegetarian and keep cattle, goats, and poultry.**
- Fishing is important whenever they have access to rivers and ponds.
- Traditionally Santals were experts in woodworking and woodcarving, and produced finely carved carts, utensils, and musical instruments, mainly for their own use.

- However, the Santhal community in the state, the Parasnath hills are actually called **Marang Buru** and have clearly been mentioned in the Gazetteer of **undivided Bihar's Hazaribagh** district in 1932, much before it became part of separate Giridih district.
- Parasnath Hills are a range of hills located in the Giridih district of Jharkhand. The highest peak is 1350 metres. It is one of the most important pilgrimage centres for Jains.
- It is located on Parasnath hill, the **highest mountain** in the state of Jharkhand.
- They call it Sammed Sikhar. The hill is named after Parasnath, the 23rd Tirthankara. Twenty Jain Tirthankaras attained salvation on this hill.

- For each of them, there is a shrine (gumti or tuk) on the hill.
- Some of the temples on the hill are believed to be more than 2,000 years old. However, although the place is habited from ancient times, the temples may be of more recent origin.
- The Santhals call it **Marang Buru**, the hill of the deity.
- They celebrate a hunting festival on the **full moon day in Baisakh** (mid-April).

Fluid boundaries: On border dispute between Karnataka and Maharashtra

- Karnataka-Maharashtra Border Dispute has escalated with reports of violence in both States, attacking vehicles and other conflicts amongst the people of states.
- The dispute began when the erstwhile Bombay Presidency had present-day Karnataka districts of Vijayapura, **Belagavi (then Belgaum)**, Dharwad, and Uttara-Kannada.
- In 1948, the Belgaum municipality requested that the district be incorporated into the proposed Maharashtra state.
- But with the **States Reorganisation Act of 1956**, Belgaum and 10 talukas of Bombay State became a part of the then Mysore State.
- This happened because states were divided based on linguistic and administrative lines.
- This long-smoldering inter-state dispute resurfaces from time to time.

Tal Chhapar blackbuck sanctuary

- The famous Tal Chhapar blackbuck sanctuary in Rajasthan's Churu district has received a protective cover against a proposed move of the State government to reduce the size of its eco-sensitive zone.
- Tal Chhapar's area was going to be reduced to three sq. km. under pressure from mine owners and stone crusher operators.
- To protect the sanctuary, the Rajasthan High Court ordered a "complete prohibition" on any action to reduce the wildlife sanctuary's area.
- The court directed to complete the formalities for the declaration of the eco-sensitive zone surrounding Tal Chhapar at the earliest.
- The Tal Chhapar Sanctuary is known as the home of **blackbuck** and a variety of **birds in Rajasthan**.
- It is located in the **Churu district** of Northwestern Rajasthan, in the **Shekhawati region of India**.

- The sanctuary is flanked by the **Great India Desert**, Thar and boasts a unique ecosystem and is an important birdwatching destination in India.
- Migratory birds in the sanctuary:** Raptors, Harriers, eastern imperial eagles, tawny eagles, short-toed eagles, sparrows, and little green bee-eaters, black ibis and demoiselle cranes, whereas skylarks, crested larks, ring doves, and brown doves are seen round the year.
- Fauna:** Desert foxes and desert cats can be spotted in the sanctuary.

Angkor Wat temple complex in Cambodia

- Addressing the **Kashi Tamil Sangamam** on the subject '**contribution of temples in society and nation building**' External Affairs Minister S Jaishankar stated that the Angkor Wat temple complex in Cambodia is being restored by India because our civilisation is not limited to India, but is spread across countries.
- Angkor Wat, the temple complex at Angkor, Cambodia, is a vast religious complex comprising more than a thousand buildings.
- Built by:** King Suryavarman II (reigned 1113–c. 1150) in the 12th century
- Type:** Buddhist temple complex. It was initially dedicated to the Hindu god Vishnu before becoming a Buddhist temple by the end of the 12th century.
- Architecture:** Angkor Wat is the world's largest religious structure, covering some 400 acres (160 hectares), and marks the high point of Khmer architecture.
- Stylistic elements:** the ogival, lotus bud-shaped towers, half-galleries, axial galleries, connecting enclosures and cruciform terraces.
- In 1992 the temple complex was named a UNESCO World Heritage site.



- Representation:** Angkor Wat is said to represent Mount Meru, the home of the gods, according to both Hindu and Buddhist faiths
- The city of Angkor, home to Angkor Wat, was the capital of the Khmer Empire and thrived between the 9th and 15th centuries.

- **Other famous temples:** Angkor Thom, Bayon Temple and Ta Prohm

Other critical Hindu Temples outside India

- Pashupatinath Temple, Nepal
- Tanah Lot Temple, Indonesia
- Sri Subramanian Swamy Devasthanam, Malaysia
- Shri Kali Temple, Burma
- Murugan Temple, Sydney, Australia
- Prambanan (Java, Indonesia)
- BAPS Shri Swaminarayan Mandir, London (Neasden Temple), United States

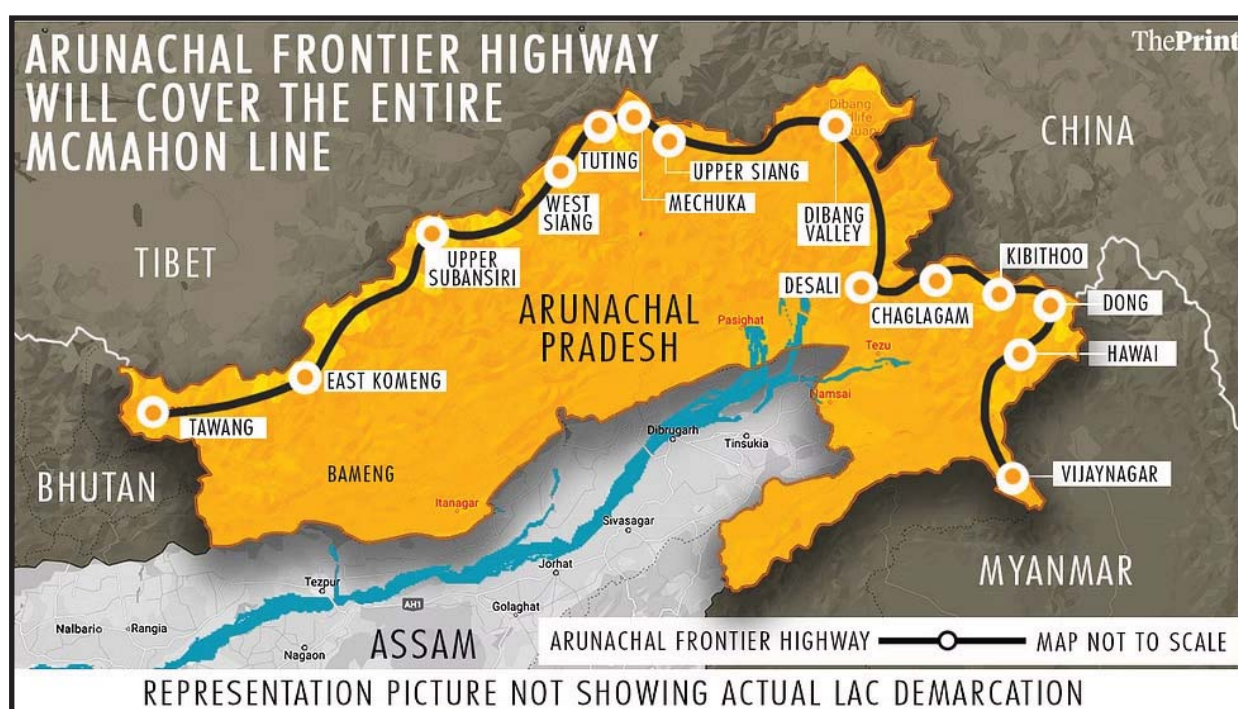
Indonesia's Mount Semeru volcano erupts

- Indonesia's **Mount Semeru** is the highest mountain on Indonesia's main island of **Java**.
- It erupted on **December 4** spewing hot ash clouds a mile into the sky.
- **Location:** Around 800 kilometres (500 miles) southeast of capital Jakarta.
- **Last eruption:** Mount Semeru last erupted exactly one year ago, killing at least 51 people and damaging more than 5,000 homes.

- **Vulnerability of the island:** Indonesia sits on the Pacific Ring of Fire, where the meeting of continental plates causes high volcanic and seismic activity.

Arunachal Pradesh Frontier Highway Along LAC

- **Centre Approves 1500-Km Arunachal Pradesh Frontier Highway Along LAC**
- **To be developed by:** Union Ministry of Road Transport and Highways (MoRTH)
- The road will run close to the Line of Actual Control (LAC) with China.
- It is seen as one of India's biggest and toughest road construction projects.
- The proposed route will start at **Mago**, which borders **Bhutan**, and continue through **Tawang**, **Upper Subansiri**, **Tuting**, **Mechuka**, **Upper Siang**, **Debang Valley**, **Desali**, **Chaglagam**, **Kibithu**, and **Dong** before coming to an end at **Vijayanagar**, which is close to the **Myanmar** border.
- The construction of the Arunachal Frontier Highway will give the military a significant boost in capacity.
- With this project, Arunachal Pradesh will have three national highways — the Frontier Highway, East-West Industrial Corridor Highway, and the Trans-Arunachal Highway.



TRIBES & PVTGs in India

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| Abhuj Maria | <ul style="list-style-type: none"> Abhuj Maria live a life of isolation from the outside world. A subtribe of the Gond, they can be found in the secluded enclaves of Narayanpur tehsil in Bastar, Chhattisgarh. |
| Bhils | <ul style="list-style-type: none"> The Bhil are one of the largest tribal groups, living in Chhattisgarh, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Andhra Pradesh and Rajasthan. |
| Baiga | <ul style="list-style-type: none"> The Baiga, meaning sorcerers, are one of the particularly vulnerable tribal groups and are spread across Chhattisgarh, Jharkhand, Bihar, Odisha, West Bengal, Madhya Pradesh and Uttar Pradesh. |
| Betta-Kuruba community | <ul style="list-style-type: none"> The Betta-Kuruba community, also known as the Karnataka-based Kadu Kuruba, was given ST status. For the past 30 years, the Betta-Kuruba group has pushed for inclusion in the ST category. |
| Binjhia | <ul style="list-style-type: none"> The Binjhia in Chhattisgarh were listed as ST in Jharkhand and Odisha but not in Chhattisgarh. Now, they are declared as ST in Chhattisgarh also. The Binjhia are meat eaters, and agriculture is the foundation of their society and economy. They don't eat beef or pork, although they do drink alcohol, including handia (rice beer). |
| Birhar | <ul style="list-style-type: none"> The Birhor are a nomadic hunting-gathering tribe found in Jharkhand and neighbouring areas of Chhattisgarh, West Bengal, Odisha, Bihar and Madhya Pradesh. They have been classified as a particularly vulnerable tribal group. Tribe members practice shifting cultivation. |
| Bru | <ul style="list-style-type: none"> Reangs or Brus are the second largest ethnic group in Mizoram. Their exodus in 1997 was spurred by violent clashes in Mamith subdivision, a Reang-dominated area when they demanded the creation of an autonomous council that was vehemently opposed by Mizo groups. |
| Bison Horn Maria | <ul style="list-style-type: none"> Bison Horn Maria are located mainly in the Bastar region of Chhattisgarh, Maharashtra, and Madhya Pradesh. The tribe's name is derived from a distinctive head-dress, made from the now-extinct wild bison, worn during wedding ceremonies. |

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| Changpa | <ul style="list-style-type: none"> • The Changpa or Champa are a semi-nomadic Tibetan people found mainly in the Changtang in Ladakh and in Jammu and Kashmir. A smaller number resides in the western regions of the Tibet Autonomous Region and were partially relocated for the establishment of the Changtang Nature Reserve. • The Chinese Army's intrusion in Chumur and Demchok has left this Ladakh's nomadic herding community cut off from large parts of summer pastures. |
| Gond | <ul style="list-style-type: none"> • Gonds, one of the largest tribal groups in the world, are mostly found in Chhindwara district of Madhya Pradesh, Bastar district of Chhattisgarh and parts of Maharashtra, Andhra Pradesh, Gujarat, Jharkhand, Karnataka, Telangana, Uttar Pradesh, West Bengal and Odisha. Gonds are subdivided into four tribes namely Raj Gonds, Madia Gonds, Dhurve Gonds and Khatulwar Gonds. |
| Galo | <ul style="list-style-type: none"> • The Galos are one of the major communities which dominate Siang, Lepa Rada, Upper Subansiri and Namsai districts of Arunachal Pradesh. Mopin is the main festival in Galos which is celebrated for the prosperity of the villages • The Galos perform Popir dance |
| Hakki pakki tribe | <ul style="list-style-type: none"> • The HakkiPikki tribes are semi nomadic tribal people, have four clans namely the Gujrathioa, Kaliwala, Mewara and Panwara. • In addition to Vagribooli, which is comparable to Gujarati, they also speak a number of south Indian languages, including Kannada, Tamil, Telugu, and Malayalam. |
| Hatti Tribe | <ul style="list-style-type: none"> • The Hattis are a close-knit group of people who earned their name from their custom of selling homegrown produce, livestock, wool, and other items in local "haat" marketplaces. • the Hatti's homeland is located In the basins of the Giri and Tons rivers—both tributaries of the Yamuna— |
| Kokna | <ul style="list-style-type: none"> • The Kokna are a major tribe found in Gujarat, Maharashtra, Karnataka, Rajasthan, Dadra and Nagar Haveli. According to anthropologists, the ancestors of the Kokna tribe were the primary inhabitants of the Konkan region and it is from their ancient dialects, that the present-day Konkani language has evolved |
| Kathakar | <ul style="list-style-type: none"> • The Ka Thakar, together with Ma Thakar and Thakar, are primarily found in Thane, Raigad, Pune, Ahmednagar and Nashik districts of Maharashtra. |
| Munda | <ul style="list-style-type: none"> • The Munda are a tribe belonging to the Chotanagpur plateau, spread across, Jharkhand, Chhattisgarh, Madhya Pradesh, Odisha, Tripura and West Bengal. |
| Madia | <ul style="list-style-type: none"> • The Madia live in Chhattisgarh, Maharashtra, Madhya Pradesh and Odisha. |
| Santhal | <ul style="list-style-type: none"> • The Santhal are the largest and one of the oldest tribes in India, They are spread across Assam, Bihar, Chhattisgarh, Jharkhand, Odisha and West Bengal. From time immemorial they have cleared forests, tilled the land and produced food for subsistence. The Santhal system of governance, known as Manjhi-Paragana, can be compared to local self-governance. |

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| Koli Dhor | <ul style="list-style-type: none"> The Koli Dhor live mainly in the Sahyadri range of mountains forming part of the Western Ghats and are principally found in the districts of Thane, Nashik Dadar and Nagar Haveli, Rajasthan, Karnataka, Gujarat and greater Bombay. |
| Korku | <ul style="list-style-type: none"> The Korku are mostly found in the Khandwa, Burhanpur, Betul and Chhindwara districts of Madhya Pradesh, Chhattisgarh, and adjoining Melghat region of Maharashtra. Korku is one of the 196 languages termed endangered by UNESCO. The community has a distinct cultural heritage. |
| Kamar | <ul style="list-style-type: none"> The Kamar live in the hills, valleys and forests of central India, primarily in the Raipur and Rewa districts of Chhattisgarh, and Madhya Pradesh. Most of the Kamar earn their living by making bamboo handicrafts. |
| Mundapota Kela Tribe | <ul style="list-style-type: none"> This tribe is believed to have migrated to Adhra Pradesh from the Odiss. These tribe is known for burying their heads in the soil for several mintues. This require good control over one's breath and great amount of practice. It is a denotified tribe , whose population is declining on regular basis. |
| Narikoravan and Kurivikkaran | <ul style="list-style-type: none"> The Narikuravas and Kuruvikaras (jackal catchers and bird eaters), two nomadic tribes, take great pleasure in their heritage of hunting and gathering. These tribes are inhabiting in the state of Tamil Nadu. |
| Pahari Korwa | <ul style="list-style-type: none"> Pahari Korwa are mainly concentrated in Jashpur, Sarguja and Raigarh districts of Chhattisgarh. They are a branch of Kolarian tribe and speak Mundari language |
| Rabari, Bharvad and Charan | <ul style="list-style-type: none"> Rabari, also called the Rewari are an indigenous tribal caste of nomadic cattle and camel herders and shepherds that live throughout northwest India, primarily in the states of Gujarat, Punjab and Rajasthan. The Bharwad are tribals primarily engaged in herding livestock. They are a tribe in Gujarat The Charan, also called Gadhvi, is a small tribe in Gujarat and the name Charan is derived from the word 'Char' which means grazing. Members of the caste are considered to be divine by a large section of society. Gujarat government decided to form a five-member commission to identify the members of Rabari, Bharvad and Charan communities, living in nesses (tiny, oval-shaped hutments made of mud) of Gir, Barda and Alech areas of the state, who are eligible to get the benefits of Schedule Tribe (ST) status. The central government had, through a notification dated October 29, 1956, conferred ST status on people from Rabari, Bharvad and Charan communities living in the nesses of Gir, Barda and Alech in the state. |
| Sarna | <ul style="list-style-type: none"> Jharkhand government convened a special session and passed a resolution to send the Centre a letter to recognise Sarna religion and include it as a separate code in the Census of 2021. Followers of Sarna faith believe pray to nature. The holy grail of the faith is "Jal, Jungle, Zameen" and its followers pray to the trees and hills while believing in protecting the forest areas. Jharkhand has 32 tribal groups of which eight are from Particularly Vulnerable Tribal Groups. |

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| Shahapur Katkari Tribe | <ul style="list-style-type: none"> ◦ The Katkari is an Scheduled Tribe mostly belonging to the state of Maharashtra. ◦ In the case of the Katkari this vulnerability derives from their history as a nomadic, forest-dwelling people listed by the British Raj under the Criminal Tribes Act of 1871, a stigma that continues to this day. ◦ Adivasi Ekatmik Samajik Sanstha” of Shahapur in Thane is known to market Giloy and other products. Katkari youth Sunil Pawar along with a group of his friends started selling these products to local markets and then through the PMVDY (Pradhan Mantri Van Dhan Yojana) run by Tribal Cooperative Marketing Development Federation of India (TRIFED) got assistance and created a website and started selling the goods online and in larger markets. |
| Tharu | <ul style="list-style-type: none"> ◦ The Tharus live in both India and Nepal. In the Indian Terai, they live mostly in Uttarakhand, Uttar Pradesh, and Bihar. |
| Tangam | <ul style="list-style-type: none"> ◦ The Tangams is a little-known community within the larger Adi tribe of Arunachal Pradesh and resides in the hamlet of Kugging in Upper Siang district’s Paindem circle. ◦ Tangam is an oral language that belongs to the Tani group, under the greater Tibeto-Burman language family. ◦ It has been marked ‘critically endangered’ by the UNESCO World Atlas of Endangered Languages (2009) |
| Van Gujjars | <ul style="list-style-type: none"> ◦ They are few surviving among the transhumant pastoral communities. They are one of the rare Muslim tribals who still exists as nomads in modern times. ◦ They are found in foothills of Himalayan States such as Uttarakhand, Himachal Pradesh and Jammu and Kashmir. |
| Warli | <ul style="list-style-type: none"> ◦ The Warli are spread across Thane, Nashik and Dhule districts of Maharashtra, Valsad district of Gujarat, Karnataka Goa and the Union territories of Dadra & Nagar Haveli and Daman & Diu. |
| Zeliangrong Ethnic Group | <ul style="list-style-type: none"> ◦ Zeliangrong people are one of the major indigenous Naga communities living in the tri-junction of Assam, Manipur and Nagaland in India. |

Particularly Vulnerable Tribal Groups

In 1975, the Government of India initiated to identify the most vulnerable tribal groups as a separate category called PVTGs and declared 52 such groups, while in 1993 an additional 23 groups were added to the category, making it a total of 75 PVTGs out of 705 Scheduled Tribes, spread over 17 states and one Union Territory (UT), in the country (2011 census).

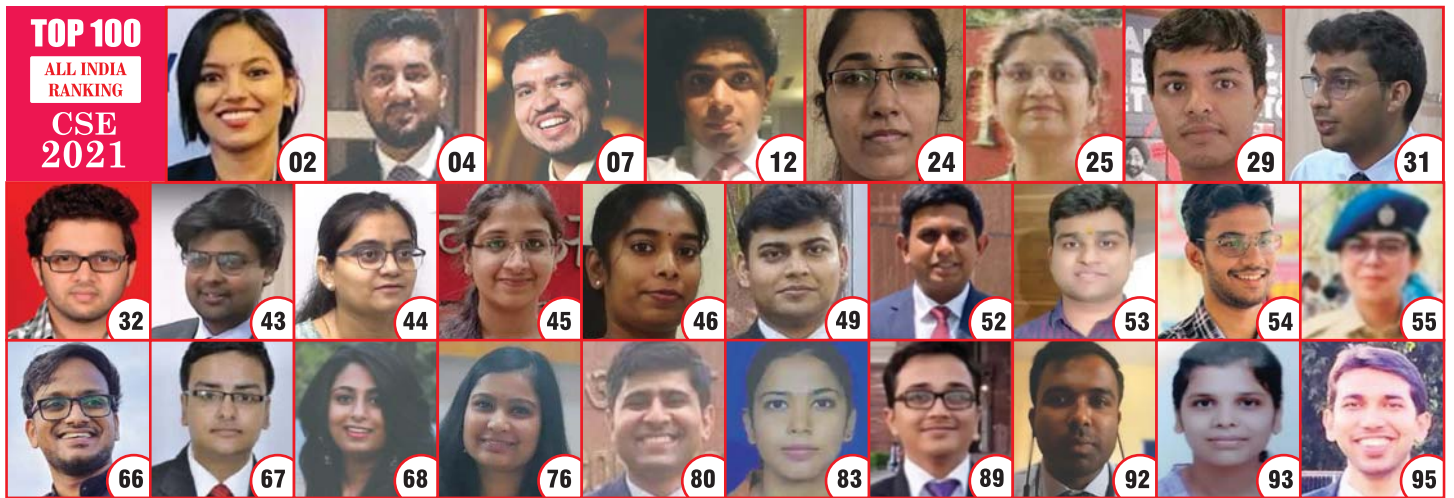
Among the 75 listed PVTG the highest number are found in Orissa (13) followed by Andhra Pradesh.

Government of India follows the following criteria for identification of PVTGs.

- Pre-agricultural level of technology
- Low level of literacy
- Economic backwardness
- A declining or stagnant population

State-wise list of Particularly Vulnerable Tribal Groups (PVTGs)

| Name of States/Union Territory | S.No | Name of the Particularly Vulnerable Tribal Group | Name of States/Union Territory | S.No | Name of the Particularly Vulnerable Tribal Group |
|---|------|--|---------------------------------------|------|--|
| Andhra Pradesh (including Telangana) | 1 | Chenchu | Maharashtra | 41 | Katkaria /kathodi |
| | 2 | Bodo Gadaha | | 42 | Kelam |
| | 3 | Gutub Gadaha | | 43 | Maria Gond |
| | 4 | Dangaria Khond | Orissa | 44 | Maram Naga |
| | 5 | Kutia Kondha | | 45 | Chakotia Bhunjia |
| | 6 | Kelam | | 46 | Birhor |
| | 7 | Kurda Reddi | | 47 | Bondo |
| | 8 | Kondasavara | | 48 | Didayi |
| | 9 | Bondo Parja | | 49 | Dangaria Khond |
| | 10 | Khond Parja | | 50 | Juang |
| | 11 | Parangi Parja | | 51 | Kharia |
| | 12 | Tothi | | 52 | Kutia Kondha |
| Bihar (including Jharkhand) | 13 | Asur | | 53 | Lanjia Saura |
| | 14 | Birhor | | 54 | Lodha |
| | 15 | Borja | | 55 | Mankirdia |
| | 16 | Hill Kharia | | 56 | Pandi Bhuiya |
| | 17 | Korwa | | 57 | Saura |
| | 18 | Mal Paharia | Rajasthan | 58 | Saharia |
| | 19 | Parhaiya | | 59 | Inlar |
| | 20 | Sauria Paharia | Tamil Nadu | 60 | Kattunayakan |
| | 21 | Savara | | 61 | Kota |
| Gujarat | 22 | Kulgha | | 62 | Korumba |
| | 23 | Kathodi | | 63 | Paniyan |
| | 24 | Kotwalia | | 64 | Toda |
| | 25 | Paikhar | Tripura | 65 | Raing |
| | 26 | Siddi | | 66 | Bukha |
| Karnataka | 27 | Jenu Kuruba | Uttar Pradesh (including Uttarakhand) | 67 | Kaji |
| | 28 | Kuraga | | 68 | Birhor |
| Kerala | 29 | Cholanayakan | West Bengal | 69 | Lodha |
| | 30 | Kadar | | 70 | Totos |
| | 31 | Kattunayakan | | 71 | Great Andamanies |
| | 32 | Kuraga | Andaman & Nicobar island | 72 | Jarawa |
| | 33 | Kurumbas | | 73 | Oge |
| Madhya Pradesh (including Chhattisgarh) | 34 | Abujh Maria | | 74 | Sentinelese |
| | 35 | Baiga | | 75 | Shom Pen |
| | 36 | Bharia | | | |
| | 37 | Birhor | | | |
| | 38 | Hill Kurba | | | |
| | 39 | Kamar | | | |
| | 40 | Sahariya | | | |



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