CSB IAS ACADEMY

The Road Map to Mussoorie...

PRELIMS EDGE

CURRENT AFFAIRS
March, 2025

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Polity

DRAFT ADVOCATES (AMENDMENT) BILL, 2025

Context: Union Ministry of Law and Justice withdrew the draft Advocates (Amendment) Bill, 2025, after strikes by lawyers & objections from the Bar Council of India (BCI).

About the Draft Advocates (Amendment) Bill, 2025:

- The **original Advocates Act of 1961** regulates the legal profession, ensures client protection, and maintains professional standards of lawyers through the **Bar Council of India (BCI) and State Bar Councils.**

Key Provisions of the 2025 Draft Bill:

- BCI: The **BCI would be responsible for regulating law firms**, including those operating in multiple states.
- **Framework for foreign law firms:** The proposed changes could pave the way for foreign law firms to operate in India. The definition of "legal practitioner" is expanded to include corporate lawyers and those working with foreign law firms. This is seen as an effort to create a regulatory framework for them.
- **Nomination of Members:** The union govt. is proposed to have the power to nominate up to three members to the Bar Council of India, in addition to existing members like the Attorney General and Solicitor General.
- **Strikes and Boycotts:** It introduces Section 35A which prohibits lawyers from striking or boycotting work if it disrupts court operations. Advocates may participate in symbolic or one-day strikes, as long as clients' rights are not affected.
- **Transfer of Bar Council Registration:** Advocates will need to pay a fee to transfer their registration from one state bar council to another, with approval from the BCI.
- **Removal of Advocates for Serious Convictions:** Any advocate convicted of an offense punishable by three or more years of imprisonment will be removed from the state roll, provided the conviction is confirmed by the High Court or Supreme Court.
- **Expanded Definitions:** The definition of a law graduate is expanded to include those who obtain a law degree (Bachelor's in law) from recognized legal education centers or universities approved by the Bar Council of India.
- **Punishment:** The punishment for practicing law illegally (i.e., by someone not an advocate) is increased from six months to one year of imprisonment and/or a fine of up to ₹2 lakh.
- **Power of Union Govt:** The Union Govt. can give directions to the BCI for execution of any of the provisions of the Act. Effectively, this means that the union govt has the final say on any matter that falls under the Advocates Act and the purview of the BCI.

Bar Council of India (BCI):

✓ It is a **statutory body established under the Advocates Act 1961** to

regulate and represent all Indian advocates.

✓ It performs the regulatory function by **prescribing standards of professional conduct and etiquette** and by exercising **disciplinary jurisdiction** over the bar.

✓ It also sets **standards for legal education and grants recognition to universities** whose degrees in law will serve as qualification for enrolment as an advocate.

✓ It conducts the **All-India Bar Examination** (AIBE) to grant a 'Certificate of Practice' to advocates practicing law in India.

✓ BCI also funds welfare schemes for economically weaker and physically handicapped advocates.

Composition of Bar Council of India:

✓ BCI consists of **elected members from each State Bar Council** (SBC).

✓ Members elected by an SBC shall hold office for the period for which they hold office as a member of that specific SBC.

✓ The members from the State Bar Councils are elected for five years.

✓ BCI also has **two ex-officio members,** who are:
   o Attorney General of India
   o Solicitor General of India.

✓ **Chairman and Vice-Chairman are elected from among the members** of BCI for a term of 2 years.

✓ Nodal ministry: **Ministry of Law and Justice**

INSURANCE REGULATORY AND DEVELOPMENT AUTHORITY OF INDIA (IRDAI)

Context: The Centre has set in motion the process of identifying the next Chairperson of the Insurance Regulatory and Development Authority of India.

About IRDAI:

• It is an autonomous and **statutory body** established under the **Insurance Regulatory and Development Authority Act 1999**.

• It is the apex body that supervises and regulates the insurance sector in India.

• **Objective:** To protect the interests of policyholders, to regulate, promote and ensure orderly growth of the insurance industry in India.

• **Nodal Ministry:** Ministry of **Finance**

• **Head Office:** Hyderabad.

Composition: IRDAI is a **10-member body** - a chairman, five full-time members, and four part-time members **appointed by the Government of India**.

Recently, the IRDAI **removed age limit** for purchasing health insurance policies from the earlier **65 years** aimed at creating new products for senior citizens.

Functions:

• To have a **fair regulation** of the insurance industry while ensuring financial soundness of the applicable laws and regulations.

• **Frame regulations** periodically so that there is no ambiguity in the insurance industry.

• Registering and regulating insurance companies;

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- Protecting policyholders' interests;
- **Licensing** and establishing norms for insurance intermediaries;
- Promoting **professional organizations** in insurance;
- Regulating and overseeing premium rates and terms of non-life insurance covers;
- Specifying **financial reporting norms** of insurance companies;
- Regulating investment of policyholders' funds by insurance companies;
- Ensuring the **maintenance of solvency** margin by insurance companies;
- Ensuring **insurance coverage in rural areas** and of vulnerable sections of society.

ACCREDITED SOCIAL HEALTH ACTIVIST (ASHA)

Context: ASHA workers have been protesting to increase their monthly incentives in correlation with their work load and inflation

About Accredited Social Health Activist

- ASHA is a **trained female community health activist.**
- The ASHA program was conceived and f**unded by the Indian National Rural Health Mission (NHRM)** in an effort to promote public health awareness amongst local, rural populations, and increase the utilization and accountability of existing health services.
- Selected from the community itself and accountable to it, the ASHA will be trained to work as an **interface between the community and the public health system.**
- The ASHA scheme is presently in place **in all States**/UTs (**except Goa).**
- The **states** are **mandated to employ at least one ASHA worker per** every **1000 people.**

- They **receive basic public health training** and are **equipped with a standard drug kit,** which allows them to deliver first-contact healthcare.
- They are chosen through a rigorous process of selection involving various community groups, self-help groups, Anganwadi Institutions, Block Nodal officer, District Nodal officer, the village Health Committee, and the Gram Sabha.

Functions

- Act as a care provider at the community level.
- **Facilitating access to healthcare, medicine,** and sanitation services.
- **Raising** the level of **awareness** of health issues among the marginalised sections within the community.
- **Advocate for female health** and hygiene standards.
- **Advocate for a health-conscious behaviour** and approach to livelihood.

Selection Criteria

- In rural areas, ASHA must primarily be a woman resident of the village married/widowed/divorced, preferably in the age group of 25 to 45 years and literate, preferably qualified up to 10th standard (formal education up to Class 8).
- In urban areas, ASHA must be a woman resident of the "slum/vulnerable clusters" and belong to that particular vulnerable group which have been identified by the City/District Health Society for selection of ASHA and must have good communication and leadership skills.
- The States have been given the flexibility to relax the population norms as well as the educational qualifications on a case-to-case basis, depending on the local conditions as far as her recruitment is concerned.

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Compensation

- An ASHA worker is primarily an "**honorary volunteer"** but is **compensated** for her time **in specific situations** (such as training attendance, monthly reviews, and other meetings).

- On average, an ASHA worker's **monthly income varies from Rs 2,000** per month to **Rs 7,000 per month**, **depending on the state**.

- In addition, she is **eligible for incentives** offered under various national health programmes.

- She would also have **income from the social marketing** of certain **healthcare products** like condoms, contraceptive pills, sanitary napkins, etc.

- Her work should be so designed that it is **done without impinging on her main livelihood** and adequate monetary compensation for the time she spends on these tasks- through performance-based payments should be provided.

OILFIELDS (REGULATION AND DEVELOPMENT) AMENDMENT 2024

Context: The Bill that seeks to amend the existing law governing exploration and production of oil and gas as well as delink petroleum operations from mining was passed by Lok Sabha recently.

About the Oilfields (Regulation and Development) Amendment:

- It amends the **Oilfields (Regulation and Development) Act, 1948**, aiming to **boost investment in oil and gas exploration** and production.
- The bill will regulate the exploration and extraction of **natural gas and petroleum**.

Key Features of the Bill:

- **Expanded definition of mineral oils:** The Bill expands the definition of mineral oils to **include petroleum and natural gas** in it.
  - Any **naturally occurring hydrocarbon, coal bed methane**, and **shale gas/oil** is included in the category of mineral oils.
  - However, it clarifies that mineral oils **will not include coal, lignite, or helium**.
- **Introduction of petroleum lease:**
  - The Act provides for a **mining lease.** The lease provides for various activities such as exploration, prospecting, production, making merchantable, and disposal of mineral oils.
  - **Prospecting** is the initial stage in the search for oil and gas fields, involving assessment of potential petroleum accumulations across large areas.
  - The bill **replaces the mining lease with a petroleum lease** to cover a similar set of activities.

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- o However, existing mining leases granted under the old Act will continue to be valid.
- **Rule-making powers of Central government:** The Act empowers the central government to make Rules on several matters.
  - o These include: (i) regulating the grant of leases, (ii) terms and conditions of leases (iii) conservation and development of mineral oils, (iv) methods for producing oil, and (v) manner of collection of royalties, fees, and taxes.
  - o The Bill retains these provisions and adds that the central government may also make Rules on:
    - (i) merger and combination of petroleum leases,
    - (ii) sharing of production and processing facilities,
    - (iii) obligations of lessees towards protecting environment and reducing emissions,
    - (iv) alternative mechanisms for resolving disputes in relation to the grant of petroleum leases.
- **Decriminalisation:** It aims to decriminalize some of the provisions of the original 1948 law.
- **Dispute Resolution:** For dispute resolution, the central government will appoint an officer of the rank of joint Secretary or above for adjudication of penalties.
- Appeals against the decision of the adjudication officer can be filed at the **Appellate tribunal** specified in the **Petroleum and Natural Gas Board Regulatory Board Act, 2006**.
- The 2006 Act designates the **Appellate Tribunal for Electricity**, constituted under the Electricity Act, 2003, as the Appellate Tribunal.

SURROGACY (REGULATION) ACT 2021

Context: A division bench of the Kerala high court has held that the eligibility of a woman intending to avail of surrogacy services extends throughout the 50th year of age.

About Surrogacy (Regulation) Act, 2021:

- A **woman who is a widow or a divorcee between the ages 35-45 or a couple,** defined as a legally married woman and man, can avail of surrogacy if they have a medical condition necessitating this option.
- Intended couple shall be a **married Indian man and woman**. The man shall be aged **26-55 years** and the woman shall be aged **25-50 years,** and **shall not have any previous biological/adopted/surrogate child.**
- It **bans commercial surrogacy,** which is punishable with a jail term of 10 years and a fine of up to Rs 10 lakhs. The law **allows only altruistic surrogacy** where no money exchanges hands.
- **Eligibility criteria for surrogate mother:** Only a close relative of the couple can be a surrogate mother, one who is able to provide a medical certificate. She should have been married, with a child of her own, and must be aged 25-35 years, but **can be a surrogate mother only once**.

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- **National and State Surrogacy Boards:** Central and state govts shall constitute National Surrogacy Board (NSB) & State Surrogacy Boards (SSB).
- **Parentage and abortion of surrogate child:** An abortion of surrogate child requires written consent of surrogate mother and prior authorisation of the appropriate authority. It must be compliant with the **Medical Termination of Pregnancy Act, 1971**.

> Surrogacy is an arrangement in which a woman (the surrogate) agrees to carry and give birth to a child on behalf of another person or couple (the intended parent/s).

APAAR ID

Context: Parents and Activists are worried that it could become impossible to opt out of the Education ministry's Automated Permanent Academic Account Registry.

About APAAR ID:

- APAAR, an acronym for **Automated Permanent Academic Account Registry**, is a **specialised identification system designed for all students in India**, beginning from an early age.
- It is being implemented by the **Ministry of Education**.

- It is introduced in accordance with the **National Education Policy (NEP) of 2020** and the **National Credit and Qualifications Framework (NCrF)**.
- Registration for an APAAR ID is **voluntary, not mandatory**.
- **Objective:** It aims to **streamline and enhance the academic experience** for students throughout India by assigning a **unique and permanent 12-digit ID to each student**, consolidating their academic records into a single accessible platform.
- It is emphasised as not only a vital tool for tracking the educational progress of 260 million students in India but also as an aspirational and globally recognized document for students.

Benefits:

- APAAR ensures **accountability and transparency** in education by tracking student progress and streamlining academic records.
- It enhances efficiency, combats fraud, and includes co-curricular achievements for holistic student development.
- With multiple use cases, APAAR facilitates a smooth transfer process and supports data-driven decision-making in educational institutions.
- It also enables students to easily share their academic records for enhanced access to employment.

CONSUMER PROTECTION ACT OF 2019

Context: Under the Consumer Protection (E-commerce) Rules of 2020, the Union Govt. has cracked down on e-commerce platforms selling non-certified products.

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CONSUMER PROTECTION ACT 1986	PROVISIONS	CONSUMER PROTECTION ACT 2019
No separate regulator	Regulator	Central Consumer Protection Authority (CCPA) to be formed
Complaint could be filed in a consumer court where the seller's (defendant) office is located	Consumer court	Complaint can be filed in a consumer court where the complainant resides or works
No provision. Consumer could approach a civil court but not consumer court	Product liability	Consumer can seek compensation for harm caused by a product or service
District: up to ₹20 lakh State: ₹20 lakh to ₹1 cr National: above ₹1 cr	Pecuniary jurisdiction	District: up to ₹1 cr State: ₹1 cr to ₹10 cr National: Above ₹10 cr
No provision	E-commerce	All rules of direct selling extended to e-commerce
No legal provision	Mediation cells	Court can refer settlement through mediation

About Consumer Protection Act (COPRA) of 2019:

- It **replaced the Consumer Protection Act of 1986** in which access to justice for consumers was found to be a time-consuming exercise.
- The 2019 Act **established the Central Consumer Protection Authority (CCPA)** to promote, protect and enforce the rights of consumers. It is empowered to:
  o **Conduct investigations** into violations of consumer rights and **initiate prosecution.**
  o **Order recall** of unsafe goods and services.
  o **Order discontinuance of unfair trade practices & misleading advertisements.**
  o **Impose strict penalties** on manufacturers and endorsers, of misleading advertisements.
- **E-commerce sector is brought within the ambit** of consumer rights in India, through the Consumer Protection (E-commerce) Rules of 2020.
  o Sellers **cannot refuse to take back goods/services or refuse refunds**, if they are found to not meet the description on the platform. E-commerce firms **cannot manipulate the price of the goods or services to gain unreasonable profit** through unjustified prices.

- Manufacturers or sellers will be held **responsible to pay compensation for any damage caused by a defective product or deficiency in services.**

Basis for product liability action:

- Manufacturing defect.
- Design defect.
- Non-adherence to the requisite manufacturing standards.
- Not conforming to express warranty.
- Failing to contain adequate instructions for correct use.
- Service provided is faulty, imperfect, or deficient.

Adjudicatory Mechanism:

- It has created a **3-tier system of Consumer Redressal Commissions** (national, state & district levels)
- **All complaints will be referred for mediation, wherever scope for it exists** and parties agree for it. There will be **no appeal against settlement** through mediation.
- As per Consumer Disputes Redressal Commission Rules, there will be **no fee for filing cases up to Rs. 5 lakhs.**
- The **Central Consumer Protection Council Rules** provide for the constitution of the **Central Consumer Protection Council (CCPC).**
  o It is an advisory body headed by **Union Minister of Consumer Affairs, Food and Public Distribution** with the Minister of State as Vice Chairperson and 34 other members.
  o It has a 3-year tenure and will have Ministers of consumer affairs from two States from each region: North, South, East, West, and North-East Region.
- National Consumer Dispute Redressal Commission (NCDRC) launched the **E-**

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Daakhil portal in 2020 for e-filing of consumer complaints.

COMPETITION COMMISSION OF INDIA

Context: The Union Govt. recently stated that it will consult with businesses before introducing a competition law for digital services.

About the Competition Commission of India (CCI):

- CCI is a statutory body of the Government of India, established under the **Competition Act, 2002.**
- The **Monopolies and Restrictive Trade Practices Act, 1969 (MRTP Act) was repealed** and replaced by the Competition Act, 2002, on the recommendations of the **Raghavan committee.**
- The commission is a **quasi-judicial body** which gives opinions to statutory authorities and also deals with other cases.
- Headquarters: New Delhi.

Eligibility criteria of members of CCI:

- It consists of **one chairperson and six additional members.**
- The Chairperson and every Member shall be a person who, **has been, or is qualified to be a judge of a High Court**, or, has special **knowledge of, and professional experience of >15 years** in international trade, economics, business, commerce, law, finance, management, industry, public affairs, and administration.
- The Chairperson and other Members shall be **whole-time Members.**
- All members of the CCI are appointed by the Central Government.

Working of CCI:

- The goal of CCI is to create and sustain fair competition in the economy that will provide a 'level playing field' to the producers and make the markets work for the welfare of consumers.
- The priority of the Commission is to eliminate practices having adverse effects on competition, promote and sustain competition, protect the interests of consumers, and ensure freedom of trade in the markets of India.
- **Mandate:** To implement provisions of The Competition Act, 2002, which –
    o prohibits anti-competitive agreements and abuse of dominant position by enterprises;
    o regulates mergers and acquisitions (M&A), which can have an adverse effect on competition within India. Thus, deals beyond a certain threshold are required to get clearance from CCI.
- Appeals from CCI lie to the **National Company Law Appellate Tribunal.**

Anti-trust laws, also known as competition laws, aim to prevent monopolies, promote fair competition, and protect consumers from unfair business practices. They seek to restrict activities like price-fixing, monopolistic mergers, and practices that limit market competition – thus ensuring a level playing field for businesses.

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AFSPA, 1958

Context: The Army has sought for inclusion of additional areas of Manipur under the AFSPA, 1958.

About Armed Forced Special Powers Act of 1958 (AFSPA):

- It gives armed forces the power to **maintain public order in "disturbed areas".**
- The **armed forces may use force or even open fire after giving due warning** if they feel a person is in contravention of the law.
- If "reasonable suspicion exists", armed forces can also **arrest a person without warrant; enter or search premises without a warrant; and ban possession of firearms.**
- Section 4 of the Act grants officers authority to **"take any action"** – can even cause death.
- **Ministry of Home Affairs or the Governor** can declare whole or part of State or UT as a **disturbed area (Section 3).**
- Union Govt. **permission is needed to take any action against an officer** for alleged violations.
- It applies to **Army, Air Force and Central Paramilitary forces** etc.

Background of AFPSA:

- It is a reincarnation of a British-era law enacted to quell the protests during the Quit India movement.
- After independence, AFSPA was issued via **four ordinances in 1947.**

- The ordinances **were replaced by an Act in 1948.** It was later repealed and the **present law was passed in 1958.**
- AFSPA came into force in the context of **Naga insurgency of the 1950s.**

Current Scenario

- **Assam:** AFSPA remains in force in certain areas in 9 districts
- **Manipur:** AFSPA remains in force in all hill districts.
- **Arunachal Pradesh:** AFSPA remains in only 3 districts and 2 police stations in 1 district.
- **Nagaland:** AFSPA remains in force in 8 districts
- **Tripura, Mizoram and Meghalaya:** AFSPA has been withdrawn completely.
- **Jammu and Kashmir:** AFSPA remains in force throughout the UT.

DENOTIFIED, NOMADIC, SEMI-NOMADIC TRIBES

Context: An article in today's edition of the Hindu analyzes the various issues faced by denotified, nomadic and semi-nomadic tribes.

About Denotified, Nomadic and Semi-Nomadic Tribes (DNTs):

- DNTs are **communities that were 'notified' as being 'born criminals' during the British regime** under a series of laws starting with the **Criminal Tribes Act of 1871.**
- These Acts were **repealed by the Indian Govt. in 1952**, and these communities were "De-Notified". A few of these

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communities which were de-notified were also nomadic.

- While most DNTs are spread across the SC, ST and OBC categories, **some DNTs are not covered in any of the SC, ST or OBC categories.**
- More than **10 crore Indians from >1,400 communities** are denotified, nomadic or semi-nomadic.
- Many commissions constituted since independence have referred to issues faced by DNTs, starting with the Criminal Tribes Inquiry Committee (1947) in the United Provinces (now Uttar Pradesh).

Commissions set up post-1947 regarding issues faced by DNTs:

- **Ananthasayanam Ayyangar Committee in 1949** (it was based on the report of this committee the Criminal Tribes Act was repealed),
- The **Kaka Kalelkar Commission** (1953) and **B.P. Mandal Commission** (1980), though primarily concerned with OBCs, also made some recommendations on the issue.
- The **National Commission to Review the Working of the Constitution (2002)** held that DNTs have been wrongly stigmatized as crime prone and subjected to high handed treatment as well as exploitation.
- The Union Govt. in 2014 constituted the **National Commission for DNTs** (NCDNT or **Idate Commission**) for a period of **3 years:**
  - To prepare a State-wise list of castes belonging to Denotified and Nomadic Tribes and
  - To suggest appropriate measures in respect of Denotified and Nomadic Tribes that may be undertaken by the Central or the State Government.

Implementation of Idate Commission Report (2017):

- The Commission recommended the **setting up of a permanent commission** for these communities. But since most DNTs are covered under SC, ST or OBC, the govt felt setting up a permanent commission would be in **conflict with the respective National Commissions for SCs, STs and OBCs.**
- The govt thus set up the **DWBDMCs (Development and Welfare Board for Denotified, Nomadic and Semi-Nomadic communities)** in 2019 under the chairmanship of BR Idate, under the Societies Registration Act, 1860 under the aegis of the **Ministry of Social Justice and Empowerment.**

About SEED (Scheme for Economic Empowerment of DNTs):

- It was launched in February 2022, with an allocation of ₹200 crore, to be spent **over five years from FY 2021-22 to FY 2025-26.**
- **DWBDNCs** has been tasked with the implementation of this scheme.
- DNT communities whose **annual family income is Rs. 2.50 lakhs or less** and who are not availing benefits under any other central/state schemes are eligible.

Components of SEED:

- **Education:** Free competitive exam coaching for DNT candidates.
- **Health:** Health insurance (through PM Jan Arogya Yojana).
- **Livelihoods:** Through National and State Rural Livelihood Missions.
- **Land and Housing:** Financial assistance for construction of houses through PM Awas Yojana.

SPECIAL CATEGORY STATUS

Context: The Bihar government has renewed its demand for Special Category Status (SCS) before the 16th Finance Commission, which is currently touring the state.

About Special Category Status (SCS):

- SCS is a **classification given by the Centre to assist development of states** that face **geographical and socio-economic disadvantages**.
- Neither the Constitution nor any statute makes a provision for SCS and it was **recommended by the 5th Finance Commission in 1969.**
- SCS was first accorded to **Jammu & Kashmir, Assam and Nagaland in 1969.**
- SCS was granted in the past by the National Development Council of the **erstwhile Planning Commission**.
- 11 States (**Assam, Sikkim, Mizoram, Nagaland, Tripura, Manipur, Meghalaya, Arunachal Pradesh, Uttarakhand, Himachal Pradesh and Telangana**) have been accorded SCS.
- SCS is **different from Special status** which imparts enhanced legislative and political rights, while SCS **deals with only economic and financial aspects.**
  - For e.g., J&K had Special status before Article 370 was repealed.

Parameters (Based on Gadgil Formula):

- Hilly Terrain
- Low Population Density and/or Sizeable Share of Tribal Population
- Strategic Location along Borders with Neighbouring Countries
- Economic and Infrastructure Backwardness
- Nonviable Nature of State finances.

Benefits of SCS:

- In the past, SCS states **used to receive approx. 30% of central assistance,** determined by the Gadgil-Mukherjee formula.
  - However, following the recommendations of the 14th and 15th Finance Commissions (FC) and the dissolution of the Planning Commission, this assistance has been **subsumed in an increased devolution of the divisible pool funds for all States** (increased to 41% in the 15th FC from 32%).
- The **Centre pays 90% of the funds required in a Centrally-Sponsored Scheme** to special category status states as against 60% or 75% in case of other states, while the remaining funds are provided by the state govt.
- **Unspent money in a financial year does not lapse** and is carried forward.
- **Significant concessions** are provided to these states in excise and customs duties, income tax and corporate tax.
- **Receiving special consideration** when applying for govt funding.
- SCS states have access to **programs for debt reduction and debt exchange.**

State Demands for SCS:

- **Since its bifurcation in 2014, Andhra Pradesh has asked** for a grant of SCS on the grounds of revenue loss due to Hyderabad going to Telangana.
- **Odisha has also been requesting for the SCS**, highlighting its vulnerability to natural calamities such as cyclones and a large tribal population (22%).

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- In **2023, the Bihar Cabinet has passed a resolution** seeking the grant of SCS to Bihar as soon as possible.

POCSO ACT, 2012

Context: The Madras High Court has ruled that in cases under the POCSO Act, medical examination should be carried out only in cases of penetrative sexual assault.

About Protection of Children from Sexual Offences (POCSO) Act, 2012:

- It was enacted in consequence to **India's ratification of the UN Convention on the Rights of the Child** in 1992.
- It aims to address offences of sexual exploitation and sexual abuse of children, which were either not specifically defined or in adequately penalised.
- The Act **defines a child as any person below the age of 18 years**. The Act provides **punishment as per the gravity of offence.**
- The Act was **amended in 2019 to introduce more stringent punishment including the death penalty** for sexual crimes on children, with a view to deter such crimes against children.
- The Govt of has also notified the **POCSO Rules, 2020.**
- Nodal Agency: **Ministry of Women and Child Development**

Key provisions of POCSO Act:

- **Gender-neutral legislation**: The Act recognizes that both girls and boys can be victims of sexual abuse.

- **Non-reporting is a crime:** Any person in charge of an institution who fails to report commission of a sexual offence faces punishment.
- **No time limit for reporting abuse:** A victim may report an offence at any time, even years after the abuse.
- **Victim's identity is confidential:** It forbids disclosure of victim's identity in any form of media unless authorised by POCSO special courts.
- The **storage of child pornography** has also been made a new offence.
- **Offence of 'sexual assault' has been defined in explicit terms** unlike the abstract definition of 'outraging modesty of a woman' in the Indian Penal Code.

POCSO Rules 2020:

- **Interim Compensation and Special Relief:**
  - It allows the Special Court to order interim compensation for the child's needs related to relief or rehabilitation after FIR registration. This payment is adjusted against the final compensation, if any.
- **Immediate Payment of Special Relief:**
  - The Child Welfare Committee (CWC) may recommend payment for needs like food, clothes, transport, etc. using funds from the District Legal Services Authority (DLSA), the District Child Protection Unit (DCPU), or funds maintained under Juvenile Justice Act 2015.
  - Payment must be made within a week of receiving the CWC's recommendation.
- **Support Person for the Child:**
  - CWC can provide a support person to assist the child throughout the investigation and trial process.
  - This person protects the child's best interests such as physical,

emotional, and mental well-being, access to medical care, counselling, & education. They also inform the child and their guardians about developments related to the case.

Scheme to Support Pregnant Minor Victims of Sexual Assault

- It was **notified under Section 4 & 6 of the POCSO Act, 2012.**

- It seeks to **assist minor girls who have been abandoned by their families** due to forced pregnancies resulting from rape or gang rape.

- It acknowledges the physical and emotional trauma on minor victims of rape and aggravated assault.

- The scheme, with an outlay of Rs 74.10 crore, will **offer shelter, food, legal aid, medical care and other necessary assistance to victims under the Nirbhaya Fund.**

- It is **not mandatory for victims to possess a copy of the FIR** to avail the benefits provided by the scheme.

- The funds will be utilized to **set up shelters dedicated to these victims**, either as **standalone shelters or designated wards within existing child care institutions (CCIs).**

- It will **leverage the administrative structure of Mission Vatsalya** in collaboration with state govts & CCIs.

Key Data regarding POCSO Act:

- **415 POCSO fast-track courts** have been established across India to expedite justice for minor victims.

- According to National Crime Records Bureau (NCRB) **2021 data, 51,863 cases** were reported under the Act.

- Out of these cases, 64% were reported under Sections 3 and 5 of the Act, which pertain to penetrative sexual assault and aggravated penetrative sexual assault.

Nirbhaya Fund:

✓ Established in 2013 and provides for a non-lapsable corpus fund for safety & security of women. It is **administered by Dept. of Economic Affairs (DEA) of the Ministry of Finance.**

✓ But **Ministry of Women and Child Development selects proposals** to be funded under the Nirbhaya Fund.

Mission Vatsalya:

✓ **Centrally Sponsored Scheme under the Ministry of Women & Child Development** to achieve development and child protection priorities aligned with the SDGs.

Child Care Institutions:

✓ **Defined under the Juvenile Justice Act 2015** as a facility fit for providing care and protection to children who are in need of such services.

Child Welfare Committees (CWC):

✓ They are **created under the Juvenile Justice Act of 2015.**

✓ It is a **quasi-judicial agency** and is the final authority on children in need of care and protection. Anyone who is connected to the child can file a petition to the Magistrate of that District, who heads the CWC.

✓ It is **mandatory to form one or more CWCs in every district.**

IN-HOUSE JUDICIAL INQUIRY

Context: An in-house inquiry was initiated by Chief Justice of India Sanjiv Khanna due to allegations against a Delhi High Court judge regarding discovery of "sacks of burnt currency" at his home.

Removal of Judges in India

About In-House Judicial Inquiry:

- The Supreme Court (SC) introduced an in-house inquiry procedure in 1999. This was prompted by the **C. Ravichandran Iyer v. Justice A.M. Bhattacharjee case** (1995), which exposed the absence of a procedure to tackle **judicial misconduct falling below the impeachment threshold.**

- The in-house inquiry process begins when a complaint against a judge is received by the **Chief Justice of India (CJI), a High Court (HC) Chief Justice, or the President of India.**

- If found credible, the CJI may conduct an inquiry themselves or ask the concerned HC Chief Justice to conduct an inquiry. A **three-member inquiry committee is set up** with the following composition:
    - **For HC judges: 2 Chief Justices of HCs and 1 HC judge.**
    - **For SC judges: 3 sitting SC judges.**

- The committee conducts the inquiry while ensuring natural justice, allowing the judge to respond. The **final report is submitted to the CJI/HC Chief Justice.**

- This report must state if there is substance to the allegations and **if they are serious enough that they require initiation of removal proceedings** against the judge.

- If the misconduct is minor, the judge **may be warned or advised**, and the report kept confidential. If serious misconduct is established, the judge **may be asked to resign or retire.**

- If the judge does not abide, the CJI/HC Chief Justice will inform the President of India that removal proceedings should be initiated.

> **Article 124(4) and Article 218 allow for impeachment of SC and HC judges** respectively, on grounds only of "proven misbehaviour" or "incapacity." Article 124(5) empowers **Parliament to regulate this procedure.**

Procedure for impeaching SC/HC Judges as per Judges Inquiry Act, 1968

- A motion signed by **either 100 Lok Sabha members or 50 Rajya Sabha members** is given to the Lok Sabha Speaker/Rajya Sabha Chairman.

- The **Speaker/Chairman may admit or refuse to admit the motion** If admitted, then Speaker/Chairman creates a **3-member committee** to investigate the charges.

- This committee consists of **CJI/SC Judge, a HC Chief Justice and a distinguished jurist.** If the committee finds the judge guilty of misbehaviour or having an incapacity, the House takes up consideration of the motion.

- After the **motion is passed by each House with >50% of total membership & 2/3 of those present and voting in each house,** it is presented to the President, who passes an order removing the judge.

CONTENT BLOCKING UNDER IT ACT

Context: X, formerly Twitter has challenged the use of Section 79 of the IT Act by the government in the removal of offensive content from its site.

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About the IT Act:

- The **Information Technology (IT) Act, 2000** is India's primary law governing cyber activities, digital transactions, and electronic governance.
- It provides a legal framework for:
    o Cybersecurity and protection against cybercrimes.
    o Digital signatures and electronic authentication.
    o Data protection and regulation of intermediaries (social media platforms, search engines, etc.).
- The Act was amended in 2008 and 2015 to address evolving cyber challenges.

Content blocking provisions under the IT Act:

- **Section 69A:** Empowers the govt to **block access to online info** in the interest of **sovereignty, security, and public order**, or to prevent incitement to an offence.
    o Requires **written orders and procedural safeguards** before action is taken.
    o **Upheld by the Supreme Court in** *Shreya Singhal vs Union of India* (2015), which recognized its safeguards against misuse.
- **Section 79 – Intermediary Liability or Safe Harbour:** Grants **immunity to digital platforms** (intermediaries) from liability for third-party content, provided they act as neutral hosts.
- **Section 79(3)(b):** Intermediaries **lose immunity if they fail to remove unlawful content** upon government notification.
- **Shreya Singhal Ruling (2015):** The SC clarified that intermediaries must comply with court or govt orders based on Article 19(2) restrictions (such as national security, defamation, incitement to violence, etc.).

Sahyog Portal

- ✓ An online platform developed for **automating the issuance of content removal notices to intermediaries** under the Information Technology (IT) Act, 2000.
- ✓ **Ministry involved:** Ministry of **Home Affairs (MHA)**.

Objectives:

- ✓ Ensure swift and coordinated action against unlawful digital content.
- ✓ Enhance monitoring and compliance with cyber laws.
- ✓ Create a secure digital environment for Indian citizens.

Key functions:

- ✓ Brings together government agencies and digital intermediaries on a single platform.
- ✓ Facilitates issuance, tracking, and monitoring of content removal notices.
- ✓ Enhances transparency and accountability in digital content regulation.

SECURITIES AND EXCHANGE BOARD OF INDIA (SEBI)

Context: On the back of conflict-of-interest allegations in the recent past, the SEBI has decided to constitute a High-Level Committee to review provisions relating to conflict of interest and disclosures.

About SEBI:

- SEBI is a **statutory body** established on April 12, 1992 in accordance with the provisions of the **Securities and Exchange Board of India Act, 1992**.
- The basic function of the Securities and Exchange Board of India is to **protect the interests of investors in securities** and to **promote and regulate the securities market**.
- It was established on the recommendations of the Narasimham Committee.
- Before SEBI came into existence, **Controller of Capital Issues** was the regulatory authority; it derived authority from the **Capital Issues (Control) Act, 1947.**
- In April, 1988 the SEBI was constituted as the regulator of capital markets in India under a resolution of the Government of India.
- Initially SEBI was a non-statutory body without any statutory power.
- It became autonomous and given statutory powers by SEBI Act 1992.
- The **headquarters** of SEBI is situated in **Mumbai.** The regional offices of SEBI are located in Ahmedabad, Kolkata, Chennai and Delhi.

Structure of SEBI:

- SEBI Board consists of a **chairman and several other whole time and part time members**. SEBI also appoints various committees, whenever required to look into the pressing issues of that time.
- A **Securities Appellate Tribunal** (SAT) has been constituted to protect the interest of entities that feel aggrieved by SEBI's decision.
  - SAT consists of a Presiding Officer and two other Members.
  - It has the **same powers as vested in a civil court.**
  - If any person feels aggrieved by SAT's decision or order **can appeal to the Supreme Court**.

Powers and Functions:

- SEBI is a **quasi-legislative and quasi-judicial body** which can draft regulations, conduct inquiries, pass rulings and impose penalties.
- It functions to fulfill the requirements of three categories:
  - **Issuers**: By providing a marketplace in which the issuers can increase their finance.
  - **Investors:** By ensuring safety and supply of precise and accurate information.
  - **Intermediaries:** By enabling a competitive professional market for intermediaries.
- By Securities Laws (Amendment) Act, 2014, SEBI is now able to **regulate any money pooling scheme worth Rs. 100 cr. or more** and attach assets in cases of non-compliance.
- SEBI Chairman has the authority to order "search and seizure operations".
- SEBI board can also seek info, such as telephone call data records, from any persons or entities in respect to any transaction being investigated.
- SEBI performs the function of registration and **regulation of the working of venture capital funds and collective investment schemes** including mutual funds.
- It also works for promoting and regulating self-regulatory organizations and prohibiting fraudulent and unfair trade practices in securities markets.

COMMISSIONER OF RAILWAY SAFETY

Context: The Commissioner for Railway Safety will conduct investigations into the recent derailing of the Bengaluru Kamakhya Express in Odisha.

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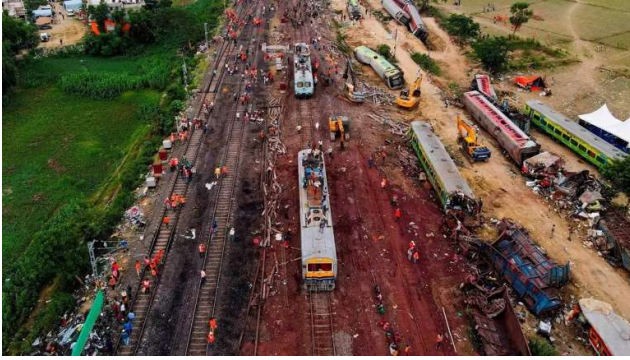
About Commissioner of Railway Safety:

- The Commissioner of Railway Safety (CRS) is a **statutory body**.
- It is headed by the **Chief Commissioner of Railway Safety**.
- It deals with matters related to **safety of rail travel and operations**, among some other statutory functions – inspectorial, investigatory, and advisory – as laid down in the **Railways Act, 1989**.
- Headquarters: **Lucknow**, Uttar Pradesh.
- **Ministry:** It is under the administrative control of the **Ministry of Civil Aviation (MoCA)** instead of the Ministry of Railways.
  - The reason behind this is to keep the CRS insulated from the influence of the country's railway establishment and prevent conflicts of interest.

Evolution of the Commission on Railway Safety:

Indian Railway Board Act, 1905:

- As per the **Indian Railway Board Act, 1905**, and a notification by the then Department of Commerce and Industry, the Railway Board was entrusted with powers and functions of the government under various sections of the Railway Act and was also authorized to make rules for railway operations in India.
- This effectively made the Railway Board the safety controlling authority for railways in India.

Government of India Act of 1935:

- Section 181(3) of the Government of India Act of 1935 stated that there should be a **separate**

authority responsible for ensuring the safety of both passengers and railway personnel. This authority would investigate accidents and determine their causes.

- In 1939, a panel headed by the then chief inspecting officer of the British Railways, **A.H.L. Mount**, noted that the Railway Board was appreciative of the separation argument and "would welcome the change".

Separation from Inspectorate:

- In May 1941, the **Railway Inspectorate was separated from the Railway Board** and placed under the control of the **Department of Posts and Air** at that time.
- Later **in 1961, the Inspectorate was renamed as CRS (Commissioner of Railway Safety)**, and it has been under the authority of the central ministry responsible for civil aviation in India ever since.

International Relations

SPACE LIABILITY CONVENTION OF 1972

Context: The issue of space debris is complicated by lack of a clear legal definition and assigning liability for damage caused.

About Liability Convention 1972:

- The **Convention on International Liability for Damage Caused by Space Objects**, also known as the **Space Liability Convention**, is a treaty established in 1972 that builds upon the liability rules outlined in the Outer Space Treaty of 1967.
- The convention addresses issues related to liability for damages caused by space objects and establishes guidelines for holding states accountable for such damages.
- It came into force on September 1, 1972.
- 98 states have ratified the Convention.
- Elaborating on **Article 7 of the Outer Space Treaty**, the Liability Convention provides that a **launching State shall be absolutely liable to pay compensation for damage caused by its space objects** on the surface of the Earth or to aircraft, and liable for damage due to its faults in space.

- If two states collaborate on launching a space object, both states share joint and several liability for any damages caused by the object.
  - This means that the injured party can choose to file a claim against either of the two collaborating states for the full extent of the damage caused.
- Claims under the Space Liability Convention must be initiated by a state against another state.

Five international space treaties often referred to as the **"five space laws"**, were developed under the **United Nations Committee on the Peaceful Uses of Outer Space (COPUOS)** and are overseen by the **United Nations Office for Outer Space Affairs (UNOOSA).** These are:

1. The Outer Space Treaty 1967
2. The Rescue Agreement 1968
3. The Liability Convention 1972
4. The Registration Convention 1976
5. Moon Agreement 1984

- India is a party to the Outer Space Treaty, Rescue Agreement, Liability Convention and Registration Convention.
- India has also signed the **Moon Treaty** but has not ratified it.
- India also actively participates in COPUOS.

BEIJING DECLARATION

Context: The Beijing Declaration and its Platform for Action are once again being revisited in light of the International Women's Day.

About Beijing Declaration:

- The **Beijing Declaration and the Platform for Action**, adopted by 189 countries, is the most **comprehensive and transformative global agenda for the achievement of gender equality** and the empowerment of women and girls.

- The Beijing Declaration was made during the **Fourth World Conference on Women** convened by the United Nations during 4 -1 5 September 1995 in Beijing, China.

- The Beijing Platform for Action covers **12 critical areas of concern**: Poverty, Education and Training, Health, Violence, Armed Conflict, Economy, Power and decision making, Institutional mechanisms, Human Rights, Media, Environment, Girl Child.

- The Beijing declaration led to renewed activism of women's movement on a global scale with an increase in political will and worldwide visibility.

- **Beijing +25:** Following 25 years of since the adoption of the Beijing Declaration, a **United Nations report** was published in early 2020 which stated that **progress towards gender equality is slowly faltering** and hard-won rights of women are gradually being reversed.

World Conferences on Women

- ✓ The United Nations has organized **4 world conferences on women**.
  - ○ Mexico City,1975
  - ○ Copenhagen,1980
  - ○ Nairobi,1985
  - ○ Beijing,1995

- ✓ The 1995 **4th World Conference on Women (WCW)**, held in Beijing, was one of the largest ever gatherings of the United Nations, and a critical turning point in the world's focus on gender equality and the empowerment of women.

GENOCIDE CONVENTION

Context: Sudan has filed a case before the International Court of Justice (ICJ) against the UAE arguing that the Gulf state is complicit in genocide over its alleged support for Sudan's paramilitary Rapid Support Forces.

About Genocide Convention:

- The **Convention on the Prevention and Punishment of the Crime of Genocide** is an instrument of international law that codified for the first time the crime of genocide.

- It was the **first human rights treaty** adopted by the **UN General Assembly**.

- As per the Convention, **genocide is a crime that can take place both in time of war as well as in time of peace**.

- The definition of genocide, as set out in the Convention, has been widely adopted at both national and international levels, including

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the **1998 Rome Statute of the International Criminal Court (ICC)**.

- The Convention establishes on State Parties the **obligation to take steps to prevent and punish the crime of genocide**, by enacting relevant laws and punishing perpetrators, "whether they are constitutionally responsible rulers, public officials or private individuals" **(Article IV)**.

- The Genocide Convention has been considered as a **norm of international customary law**, and thus, **binding on all States, whether or not they have ratified the Convention.**

- **India is a signatory** to this convention.

Definition of Genocide

Genocide means any of the following acts committed with intent to destroy, in whole or in part, a national, ethnical, racial, or religious group, as such:

1. Killing members of the group.
2. Causing serious bodily or mental harm to members of the group.
3. Deliberately inflicting conditions of life calculated to bring about its physical destruction in whole or in part.
4. Imposing measures intended to prevent births within the group.
5. Forcibly transferring children of the group to another group.

International Court of Justice

- ✓ It is the **principal judicial organ of the UN** and is located in the Hague.
- ✓ It is the only one of the 6 principal organs of UN **not located in New York**.
- ✓ Its role is to **settle, in accordance with international law, legal disputes submitted by States** and **give advisory opinions on questions referred to it** by UN organs and authorized agencies.
- ✓ **All members of UN are automatically parties to ICJ statute**, but this does not automatically give the ICJ jurisdiction over disputes.
- ✓ ICJ has **jurisdiction only if both parties consent to it**.
- ✓ The judgment of ICJ is **final and binding** on the parties to a case.
- ✓ The ICJ has **15 judges** who are **elected to nine-year terms** by the **UN General Assembly and Security Council**

UNITED NATIONS CONVENTION AGAINST TORTURE

Context: 26/11 Mumbai terror attack accused Tahawwur Rana's petition against extradition on the grounds that he would be tortured in violation of the UN Convention Against Torture has been rejected by the US Supreme Court.
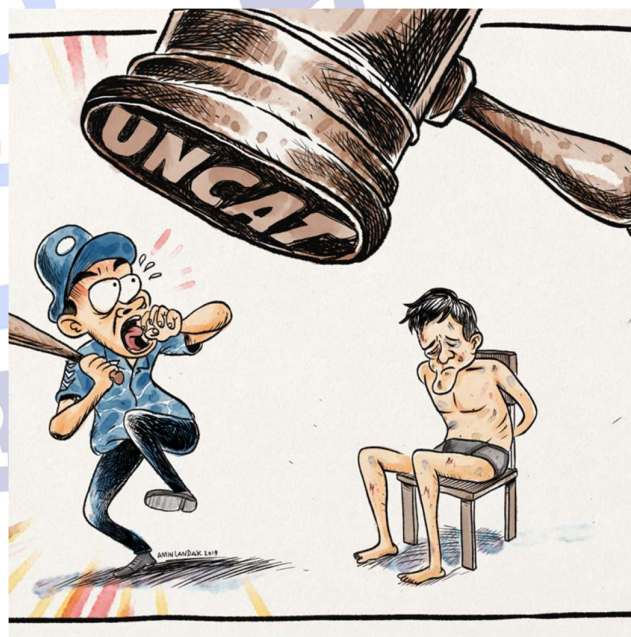
About UN Convention Against Torture:

- It is an **international human rights treaty** adopted in 1984.

- **Aim:** to prevent torture and other acts of cruel, inhuman, or degrading treatment or punishment around the world.

- The convention requires states to take effective measures to **prevent torture in any**

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territory under their jurisdiction and forbids states to transport people to any country where there is reason to believe they will be tortured.

- Since the convention's entry into force, the absolute prohibition against torture and other acts of cruel, inhuman, or degrading treatment or punishment has become accepted as a principle of **customary international law**.

The Committee Against Torture

- It is a body of human rights experts that monitors implementation of the Convention by State parties.
- All state parties are obliged under the Convention to submit regular reports to the CAT on how rights are being implemented.
- Upon ratifying the Convention, states must submit a report within one year, after which they are obliged to report every four years.
- The Committee examines each report and addresses its concerns and recommendations to the State party in the form of "concluding observations."
- Under certain circumstances, the CAT may consider complaints or communications from individuals claiming that their rights under the Convention have been violated.

India and UNCAT: India signed the convention in 1997 but it remains among a handful of countries including Pakistan and China which are yet to ratify the convention.

D.K. Basu v. State of West Bengal

✓ In this case, the Supreme Court ruled that the death of a person in custody is a **violation of their fundamental rights** and is illegal.

✓ The court reiterated that prisoners and detainees should not be deprived of their fundamental right under Article 21 and only the restriction permitted by law could be imposed on the enjoyment of their fundamental rights.

✓ Guidelines related to the arrest or detention to prevent custodial violence were provided.

✓ These include:

    o Police personnel must wear clear, visible name tags that include their designation.

    o Police must record the details of all personnel involved in the interrogation of an arrestee in a register.

    o District judges must conduct surprise visits to police stations to check on individuals in custody.

COMMISSION ON THE STATUS OF WOMEN (CSW)

Context: 69th session of the Commission on the Status of Women (CSW) is being held at the United Nations headquarters in New York.

About Commission on the Status of Women

- It is the principal global **intergovernmental body exclusively dedicated** to the promotion of **gender equality,** the rights, and the **empowerment of women.**

- It is p**art of the United Nations**, and works to promote women's political, economic, civil, social, and educational rights.

- A **functional commission of the Economic and Social Council (ECOSOC),** it was established by ECOSOC resolution of 21 June 1946.

- The CSW is instrumental in promoting women's and girls' rights, documenting the reality of their lives throughout the world, and **shaping global standards** on gender equality and the empowerment of women and girls.

- CSW can **also highlight urgent problems,** such as the situation of women and girls affected by conflict.

- In 1996, ECOSOC expanded the Commission's mandate and decided that it should take a leading role in monitoring and **reviewing progress** and problems in the **implementation of the Beijing Declaration and Platform for Action** and in mainstreaming a gender perspective in UN activities.

  o The Beijing Declaration and the Platform for Action, adopted by 189 countries, is the **most comprehensive** and transformative **global agenda for** the achievement of **gender equality and the empowerment of women** and girls.

Commission on the Status of Women Annual Sessions

- During the Commission's annual two-week session, representatives of **UN member states, civil society organizations,** and **UN entities gather at UN headquarters in New York.**

- They **discuss progress** and gaps in the **implementation of the** 1995 **Beijing Declaration** and Platform for Action, and the **23rd special session of the General Assembly held in 2000 (Beijing+5),** as well as **emerging issues** that affect gender equality and the empowerment of women and girls.

- Member States **agree on further actions** to accelerate progress and promote women's and girls' enjoyment of their rights in political, economic, and social fields.

- The **outcomes and recommendations** of each session are **forwarded to ECOSOC for follow-up.**

UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT (UNCTAD)

Context: According to the UNCTAD, global cooperation and balanced policies are critical to preventing economic fragmentation and safeguarding long term growth.

About UNCTAD:

- UNCTAD is an **intergovernmental body** established by the United Nations General Assembly in 1964.

- **Headquarters:** Geneva, Switzerland

- It supports developing countries to access the benefits of a globalized economy more fairly and effectively.

- It provides **economic and trade analysis**, facilitates **consensus-building** and offers technical assistance to help developing countries use trade, investment, finance and

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technology for inclusive and sustainable development.

- It is **part of the UN Secretariat**.
- It **reports to the UN General Assembly and the Economic and Social Council** but has **its own membership, leadership, and budget**.
- It is also **part of the United Nations Development Group**.

Key Developments:

- The first United Nations Conference on Trade and Development (UNCTAD) was held in Geneva in 1964.
- In 1989, the **Agreement on the Global System of Trade Preferences among Developing Countries** (GSTP) came into force. It provided for the granting of tariff as well as non-tariff preferences among its members. To date, the Agreement has been ratified by 44 countries.
- The conclusion of the Uruguay Round of trade negotiations under the GATT resulted in the establishment of the World Trade Organizationin 1995, which led to a strengthening of the legal framework governing international trade.
- It highlighted the need for a differentiated approach to the problems of developing countries.
- Its tenth conference, held in Bangkok in February 2000, adopted a political declaration – **'The Spirit of Bangkok'** – as a strategy to address the development agenda in a globalizing world.

Reports published by UNCTAD:

1. Trade and Development Report
2. World Investment Report
3. The Least Developed Countries Report

THE YEMEN CRISIS

Context: Recently, the U.S. launched airstrikes on Houthi-controlled areas in Yemen.

- The Yemeni Civil War is an ongoing conflict that began in **2015** between two factions claiming to constitute the Yemeni government, along with their supporters and allies.
- Southern separatists and forces loyal to the **government of Abd Rabbuh Mansur** Hadi, based in Aden, have clashed with **Houthi forces and forces loyal to the former president Ali Abdullah Saleh.**

About Yemen

- **Capital:** Sanaa
- **Border:** Saudi Arabia bounds it to the north and Oman to the east.
- **Coastline:** It has the Red Sea to the west. The Gulf of Aden, the Arabian Sea, and Guardafui Channel bound it to the south.
- **Strategic Importance:** Located at the entrance of the Bab-el-Mandeb Strait which links the Indian Ocean to the Red Sea via the Gulf of Aden.

Houthis

- The Houthis, officially known as **Ansar Allah (Partisans of God)**, are an **Iranian-backed Shiite Muslim military and political movement in Yemen.**
- Its **members**, who **subscribe to** the **minority Zaidi sect of Shiite Islam**, **advocate regional autonomy for Zaidis in northern Yemen.**
  - o Shiite Muslims are the minority community in the Islamic world,

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and Zaidis are a minority of Shiites, significantly different in doctrine and beliefs from the Shiites who dominate in Iran, Iraq, and elsewhere.

- o They are a **minority in Yemen**, **which is predominantly Sunni Muslim,** but they are a significant one, numbering in the hundreds of thousands and making up as much as a third of the overall population.

- The group **emerged in the 1990s** and takes its name from the movement's late founder, Hussein al-Houthi.

- The Houthi **movement began** as an effort **to maintain tribal autonomy in northern Yemen** and **protest Western influence** in the Middle East.

- They have been **fighting Yemen's Sunni-majority government since 2004**.

- The Houthis **took over the Yemeni capital Sanaa in** September **2014** and seized control over much of north Yemen by 2016. Currently, Houthis **controls** approximately **one-third of Yemen's territory.**

- Today, the Houthis **seek a greater role in the Yemeni government** and continue to advocate for Zaidi minority interests.

- The movement is known for its virulently **anti-American and anti-Semitic rhetoric.**

- Several of the group's leaders have been designated as terrorists by the United States.

INDIA'S ARCTIC POLICY

Context: Russian Ambassador to India Denis Alipov said that Russia sees India's interest in increasing its presence in the Arctic region as a stabilising factor.

About India's Arctic Policy:

- It was unveiled by the **Ministry of Earth Sciences (MoES) in March 2022** and is titled 'India and the Arctic: Building a Partnership for Sustainable Development".

- It has **6 Central Pillars:**
  - o Science and research.
  - o Environmental protection
  - o Economic and human development
  - o Transportation & connectivity.
  - o Governance and international cooperation.
  - o National capacity building.

Objectives:

- Strengthen capabilities and in **science and exploration, maritime and economic cooperation, climate and environmental protection.**

- **Strengthen institutional and human resource capacities** within the govt and academia, research and business institutions through holistic inter-ministerial coordination.

- **Enhance understanding of impact of climate change in Arctic region** on India's climate and economic and energy security.

- **Promote better analysis, prediction and coordinated policymaking** on the implications of ice melting in the Arctic on India's economic, military, and strategic interests.

- **Study links between polar regions & Himalayas** and deepen co-operation between India and the countries of the Arctic region.

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- **Increase involvement in the Arctic Council** and improve understanding of governance structures in the Arctic and relevant international laws.

Relevance of Arctic Region for India:

- Arctic region is significant due to **shipping routes** that run through it.

- **China has referred to trans-Arctic shipping routes as Polar Silk Road**, identifying it as a transportation corridor for its Belt and Road Initiative and is the **only country apart from Russia to construct nuclear ice-breakers.**

- Arctic region contains **rich deposits of coal, gypsum and diamonds and also substantial reserves of zinc, lead, placer gold and quartz.** Greenland alone possesses about 25% of the world's **rare earth reserves.** The region also contains unexplored hydrocarbon resources amounting to **30% of the world's undiscovered natural gas**.

- As per Ministry of External Affairs, India can play a **constructive role in securing a stable Arctic.**

- The Arctic region holds immense geopolitical importance as the Arctic is **projected to be ice-free in summers by 2050** and **world powers are aiming to exploit the region** rich in natural resources.

- Though geographically distant, the **Arctic region and the Himalayas are interconnected** and share similar concerns**. Arctic melt is helping scientists better study Himalayan glacial melt.**

India and the Arctic:

- India launched its **1st scientific expedition to Arctic Ocean in 2007** and opened **research base "Himadri" at Svalbard, Norway** in 2008

  - Himadri carries out studies in Glaciology, Atmospheric sciences & Biological sciences.

- In 2018, MoES renamed "National Centre for Antarctic and Ocean Research" to **"National Centre for Polar and Ocean Research" (NCPOR)**

- **MoU with Norwegian Polar Research Institute** for cooperation in science, logistic and infra facilities.

- **Polar Science and Cryosphere Research (PACER) Scheme** was launched by NCPOR.

- **Dec 2023 - India launched its First Winter Expedition** to the Arctic, thus making Himadri the **4th research station in the Arctic to be manned year-round.**

Arctic Council:

✓ It was set up by the **Ottawa Declaration in 1996.**

✓ **Arctic Council Secretariat: Estd. in 2013** and provides administrative capacity, institutional memory, enhanced communication and outreach and general support to the Council's activities.

✓ **Decisions taken by consensus** among the 8 Arctic Council States: **USA, Canada, Denmark, Finland, Iceland, Norway, Sweden & Russia.**

✓ **India became an observer in 2013.**

INDIAN OCEAN RIM ASSOCIATION (IORA)

Context: India is set to become the chair of the Indian Ocean Rim Association from November 2025.

Members of Indian Ocean Rim Association

About Indian Ocean Rim Association:

- Indian Ocean Rim Association (IORA) is an **intergovernmental organization** established to **promote economic cooperation and regional integration among countries bordering the Indian Ocean**.

- IORA member states work on various initiatives related to **trade, investment, and sustainable development** in the Indian Ocean region (IOR).

- It was established on **March 7, 1997** based on an idea that originated during late President Nelson Mandela's visit to India.

- Membership is open to **all sovereign states of the Indian Ocean Rim** willing to subscribe to the principles and objectives of the Charter.

- **Current 23 Member States:** Australia, Bangladesh, Comoros, **France/Reunion**, India, Indonesia, Iran, Kenya, Madagascar, Malaysia, Maldives, Mauritius, Mozambique, Oman, Seychelles, Singapore, Somalia, South Africa, Sri Lanka, Tanzania, Thailand, United Arab Emirates and Yemen.

- **Dialogue Partners:** China, Egypt, Germany, Italy, Japan, Republic of Korea, Russia, Turkey, the United Kingdom and the United States of America.

- **Specialized Agencies:**
  o The Regional Centre for Science and Technology Transfer (RCSTT) based in Tehran, Iran.
  o The Fisheries Support Unit (FSU) based in Muscat, Oman.

- **Two Observers:**
  o The Indian Ocean Research Group (IORG)
  o The Western Indian Ocean Marine Science Association (WIOMSA)

Institutional Mechanism of IORA:

- **Council of Ministers (COM):** IORA's apex body is the Council of (Foreign) Ministers (COM) that meets annually.

- **Committee of Senior Officials (CSO):** CSO composed of senior government officials of Member States.
  o It **meets bi-annually** to review and prioritize IORA's activities.

- **TROIKA:** A "TROIKA" consists of the **Chair; the Vice-Chair and the previous Chair** will apply to the COM and the CSO.

- It meets in the period between the meetings of the COM and CSO to review progress, establishment of additional mechanisms and policy direction to IORA institutions.

- **Secretariat:** The Secretariat is hosted by the Government of the Republic of **Mauritius.**
  o It manages, coordinates, services and monitors the implementation of policy decisions, work programs and projects adopted by the Council of Ministers.

- **Functional Bodies:** To strengthen and promote activities in the Association, the COM established Functional Bodies such as **Working Groups, Sub-Working Groups, Sectoral/Cluster Core Groups, and Dialogue Forums**. For example: Indian Ocean Rim Academic Group (IORAG); Working Group on Trade and Investment (WGTI) etc.

- **Budget:** The annual budget is based on annual membership contributions by the Member States.

- **Special Fund:** It is a mechanism for supporting and complementing the funding of projects & programs of IORA.

MAHASAGAR

Context: MAHASAGAR vision for the Indian Ocean Region was unveiled by PM Modi during his visit to Mauritius.

About MAHASAGAR Vision:

- Mahasagar or **Mutual and Holistic Advancement for Security and Growth Across Regions** is India's expanded strategic vision aimed at enhancing security, trade, and development cooperation across the Global South.
- It builds on India's **SAGAR (Security and Growth for All in the Region) policy**, which focused on the Indian Ocean Region (IOR).

Three Core Pillars:

- **Trade for Development:** Enhancing economic ties through technology-sharing and trade facilitation.
- **Capacity Building for Sustainable Growth:** Supporting nations with infrastructure, education, and economic partnerships.
- **Mutual Security for a Shared Future:** Strengthening regional security, maritime cooperation, and defense ties.

Objectives:

- It seeks to address China's expanding presence in the Indo-Pacific and Indian Ocean by promoting India-led cooperation models.

- It aims to position India as a champion of the Global South, amplifying their voice in global policymaking (e.g., G20, IORA, BRICS).

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Economy

INDEX OF CORE INDUSTRIES

Context: Output level in core sectors grew at a rate of 4.3% in January 2025, a slight slowdown from the 4.6% recorded in December 2024.

About Core Industries in India:

- The core sector in India comprises **eight key industries**.
- Growth rate of core sector is a **crucial indicator of the overall health of the Indian economy**. A strong growth rate in the core sector often signals a positive economic outlook.
- The **Index of Eight Core Industries (ICI)** is prepared every month and released by the **Dept. for Promotion of Industry & Internal Trade (DPIIT),** Ministry of Commerce & Industry.
- ICI comprises various components that collectively reflect performance and vitality of India's industrial sector. These components include:

   o **Coal production,** excluding Coking coal.
   o **Electricity** from thermal, nuclear, and hydro sources & imports from Bhutan.
   o Total **crude oil** production.
   o **Cement production** in both large plants and mini plants.
   o Total production of **natural gas.**
   o Production of **alloy and non-alloy steel**.
   o Total **refinery production.**
   o **Fertiliser:** Production of urea, ammonium sulphate, calcium ammonium nitrate, single superphosphate, among others.

- The current weightage in ICI is Refinery Products (28.04%) > Electricity (19.85%) > Steel (17.92%) > Coal (10.33%) > Crude Oil (8.98%) > Natural Gas (6.88%) > Cement (5.37%) > Fertiliser (2.63%).
- Choice of base year of ICI is according to the choice of **base year for the Index of Industrial Production (IIP).** The base year in the current series of ICI and IIP is **2011-12.**
- IIP helps in measuring the growth rates in different industry groups of the economy in a fixed period.
   o It is a composite index that shows short-term changes in production volume of a basket of industries compared to a chosen base period.
- ICI comprises **40.27% of the weight of items included in the IIP.**

PAYMENT BANKS

Context: Paytm Payment Bank has been in the news recently due to actions taken against them due to persistent non-

compliance with the regulations for payment banks.

PAYMENT BANK

About Payment Banks:

- They are like any other bank, but **operate on a smaller/restricted scale.**
- **Credit risk is not involved** with the payment banks. It can carry out most banking operations but cannot advance loans or issue credit cards.
- They are registered under **Companies Act 2013** & are licensed under **Section 22 of Banking Regulation Act 1949.**
- **RBI Act 1934, Banking Regulation Act, 1949; and the Foreign Exchange Management Act, 1999** form the basis for governance of these banks.
- Set up based on recommendations of the **Nachiket Mor Committee.**
- Aim: Advance financial inclusion by offering banking & financial services to unbanked and underbanked areas, helping migrant labour force, small entrepreneurs, poor households, etc.

Following permissible activities:

- Accept deposits up to Rs. 2,00,000.
- Offer demand deposits in the form of savings and current accounts.
- Invest 75% of deposits in g-secs as Statutory Liquidity Ratio (SLR).
- Place remaining 25% as time deposits with other SCBs.
- Remittances, mobile payments, Debit cards, Net banking, Fund transfers.

- Act as a banking correspondent (BC) for other banks to offer services.

Activities Not Permitted:

- Cannot issue loans & credit cards.
- They are not authorized to accept time deposits or NRI deposits.
- Establish subsidiaries to engage in non-banking financial activities.

> SLR is a minimum percentage of deposits that a bank has to maintain in the form of liquid cash, gold or other securities. It is basically the reserve that banks are expected to keep before offering credit to customers. These are kept with the banks themselves. The SLR is fixed by the RBI.

SHORT SELLING

Context: The Securities and Exchange Board of India (SEBI) is considering a major revamp of short-selling regulations.

About short selling:

- Short selling is the practice wherein **an investor borrows a stock or security, sells it in the open market, foreseeing a potential future price decline**, aiming to **repurchase the same asset at a lower price** later on.
  - **SEBI** defines short selling as **selling a stock that the seller does not own at the time of trade**.

Regulation of Short-selling in India:

- SEBI has recently stated that **investors across all categories** will be allowed for short-

selling, but **naked short-selling will not be permitted**.

- Consequently, all investors are required to fulfill their duty of delivering securities during the settlement period.
  - **Naked short selling** occurs when an investor **sells stocks or securities without first arranging to borrow them** or ensuring they can be borrowed.
- Institutional investors must **disclose upfront whether a transaction is a short sale**, while **retail investors can make a similar disclosure by the trading day's end**.
- Also, short selling is **permitted for securities traded in the F&O (Futures & Options) segment**, subject to SEBI's periodic review of eligible stocks.
  - **Futures and Options (F&O)** are **derivative instruments**.
  - **Futures** involve an obligation to buy/sell assets at an agreed price on a set date, carrying unlimited risk.
  - **Options** grant the right (but not obligation) to buy/sell assets by a certain date, with a premium paid upfront limiting potential losses.

Recent developments:

- The **Securities and Exchange Board of India (SEBI)** is considering a major revamp of short-selling regulations, potentially **allowing it for all stocks except those in the trade-to-trade (T2T) segment.**
- The proposal may also scrap short-sale disclosures and penalties currently imposed by stock exchanges.

BHIM 3.0

Context: The National Payments Corporation of India (NPCI) launched BHIM 3.0 with new features aimed at enhancing the user experience and providing new offerings for businesses and banks.

About BHIM (Bharat Interface for Money):

- BHIM is a **mobile payment app developed by NPCI, based on the Unified Payments Interface (UPI),** aimed at promoting cashless transactions and digital payments directly through banks.
- Launched in Dec 2016, BHIM facilitates instant money transfers between **over 170 member banks.**
- BHIM now supports **Aadhaar-based authentication** for easier digital payments.
- BHIM is available in **more than 20 Indian languages** and is designed to work effectively in **areas with low or unstable internet connectivity.**
- BHIM employs a robust **three-factor authentication (3FA)** process to ensure the security of transactions:
  - **Device ID and Mobile Number:** The app binds with the user's device ID and mobile number to verify the device.
  - **Bank Account Link:** Users must sync their bank account (UPI-enabled or non-UPI-enabled) to the app for transactions.
  - **UPI PIN:** A unique PIN is needed for completing transactions.
- NPCI **does not charge any fee for transactions** between ₹1 and ₹1 lakh.

Features of BHIM 3.0:

- **Split Expenses:** Users can now divide bills for shared expenses and settle payments instantly.

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- **Family Mode:** Users can onboard family members, track shared expenses & assign specific payments for better financial management.
- **Spend Analytics:** A new dashboard provides a detailed breakdown of monthly expenses, automatically categorizing them for easy budgeting.
- **Action Needed Alerts:** BHIM 3.0 includes reminders for pending bills, activation of UPI Lite, and low balance alerts to help users stay updated.
- **BHIM Vega:** Allows merchants to accept in-app payments directly in the BHIM app, streamlining transactions without needing third-party apps.

About the National Payments Corporation of India (NPCI):

- ✓ It is an umbrella organisation for operating retail payments and settlement systems in India.
- ✓ It is an initiative of **Reserve Bank of India (RBI) and Indian Banks' Association (IBA)** under the provisions of the **Payment and Settlement Systems Act, 2007**.
- ✓ It has been incorporated as a **"Not for Profit" Company** under the provisions of Section 8 of the **Companies Act, 2013.**
- ✓ The **ten core promoter banks** are State Bank of India, Punjab National Bank, Canara Bank, Bank of Baroda, Union Bank of India, Bank of India, ICICI Bank, HDFC Bank, Citibank and HSBC.
- ✓ In 2016 the **shareholding of NPCI was increased to 56 member banks** to include more banks and thus represent all sectors of the economy.

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Art & Culture

JALANTHEESWARAR TEMPLE

About Jalantheeswarar Temple

- **Location:** Jalantheeswarar Temple (also known as **Thiruvooral**) is an ancient Hindu temple dedicated to Lord Shiva, situated in Thakkolam village of Ranipet district, Tamil Nadu.

- **Deity:** The presiding deity is **Lord Shiva** worshipped as **Jalantheeswar**, represented by a lingam made of sand (prithvi lingam), known as Theenda Thirumeni.

- **Construction:** The original temple complex was constructed by Pallavas and later expanded by Cholas. The present masonry structure dates back to the Nayak period in the 16th century.

- **Architectural Features:** The temple complex spans approximately 1.5 acres, featuring **a three-tiered gopuram** (gateway tower) and concentric granite walls. The main sanctum houses the deity Jalantheeswar in the form of a lingam made of sand.

- **Religious Significance:** It is one of the shrines of the 275 Paadal Petra Sthalams -

Shiva Sthalams glorified in the early medieval Tevaram poems by Tamil Saivite Nayanars Sambandar.

Sambandar

- Thirugnana Sambandar, also known as Sambandar, was a 7th-century CE Saiva poet-saint from Tamil Nadu and a contemporary of Appar.

- As per Tamil Shaiva tradition, he composed 16,000 hymns in intricate meters, of which 383 (or 384) hymns with 4,181 stanzas have survived.

VIKRAMSHILA UNIVERSITY

- Vikramshila University was founded by **King Dharmapala of the Pala Dynasty** in the 8th century AD in **present-day Bihar**, near the River Ganga. It was established to address the decline in academic standards at Nalanda University.

- It specialized in **Tantric Buddhism and Vajrayana Buddhism.** Subjects taught included philosophy, logic grammar, metaphysics, and tantras.

- Unlike Nalanda, which was known for a more comprehensive curriculum, Vikramshila was famous for its focus on tantric and occult studies.

- **Scholars like Atisa Dipankara and Naropa** were associated with Vikramshila. It had over 1,000 students and had more

than 100 teachers. It had 208 monastic cells, where monks studied and meditated.

- Administration was managed by a **Kulpati or Mahasthavir**, overseeing both academics and operations.
- It thrived for about 400 years before being **destroyed in 1193 AD by Muhammad Bakhtiyar Khalji,** a military general of Muhammad Ghori.

MAHABODHI TEMPLE

- Bodh Gaya is witnessing protests by Buddhist groups demanding full control of the Mahabodhi Temple, objecting to Hindu participation in the temple's administration
- The temple is managed by the **Bodh Gaya Temple Management Committee** (BTMC), a statutory body created under the **Bodh Gaya Temple Act of 1949 passed by the Bihar Legislature.**
- The Maha Bodhi Temple is **one of the four holy sites related to the life of Lord Buddha**, and particularly to the attainment of Enlightenment.
  o The other 3: **Lumbini** (Birth) in Nepal, **Sarnath** (1st Sermon) in Uttar Pradesh, and **Kushinagar** (death) in Uttar Pradesh.
- The **original structure was built by the Mauryan emperor Ashoka**. However, it was reconstructed entirely in brick during

the **late Gupta period**. The present structure dates back to the 5th or 6th centuries.

- The site of the Mahabodhi Temple provides exceptional records of the **events associated with the life of Buddha and subsequent worship.**
- A descendant of the Bodhi tree under which the Buddha is said to have sat until he attained enlightenment stands adjacent to the temple.
- **Ashoka's stone slab** located here is believed to mark the exact position where Buddha gained enlightenment and is called as **Buddha's Vajrasana** (diamond throne).
- It was recognized as a **UNESCO World Heritage site in 2002**

Environment

NATIONAL CLEAN AIR PROGRAMME (NCAP)

Context: As part of the NCAP, Delhi Govt. has decided to ban the refueling of old vehicles in Delhi from March 31 onwards.

CLEARING THE AIR
AIM OF NATIONAL CLEAN AIR PROGRAMME
To meet prescribed annual average ambient air quality standards at all locations in the country
· How it will work ·
A NEW INSTITUTIONAL FRAMEWORK FINALISED — Monitoring committee under joint secretary
Apex committee under environment minister — National project implementation unit at CPCB (5-6 scientific personnel) — State-level project monitoring units (3-4 scientific personnel)
Steering committee under secy (environment) — National project monitoring unit in environment min (25 scientific personnel)

About National Clean Air Programme:
- The National Clean Air Programme (NCAP) was launched by the **Ministry of Environment, Forests and Climate Change (MoEFCC)** in January 2019.
- It is the **first-ever effort in the country to frame a national framework for air quality management** with a time-bound reduction target.
- It seeks to cut the concentration of coarse Particulate Matter (PM of diameter 10 micrometer or less, or **PM10**) and fine particles (particulate matter of diameter 2.5 micrometer or less, or **PM2.5)** by **at least 40% by 2026**, with **2017 as the base year**.
- It covers **132 non-attainment cities** which were identified by the **Central Pollution Control Board (CPCB)**. In addition to this, all cities with a population of one million are covered.
- The NACP mandates the preparation of the **city-specific action plans**, including:
  o Measures to strengthen the monitoring network
  o Reduce vehicular and industrial emissions
  o Increase public awareness.

- Implementation of the city-specific action plans are **regularly monitored by Committees at Central and State level**
- From 2020-21 onwards, cities are required to quantify all improvements made in air quality.

Non-attainment cities are those that have fallen short of the National Ambient Air Quality Standards (NAAQS) for over five years.

About National Ambient Air Quality Standards:
- The mandate provided to the CPCB under the Air (Prevention and Control of Pollution) Act empowers it to set standards for the quality of air. Hence the current National Ambient Air Quality Standards were notified in November 2009 by the CPCB.
- Pollutants monitored:
  o PM10
  o PM2.5
  o Sulphur Dioxide (SO2)
  o Nitrogen Dioxide (NO2)
  o Carbon Monoxide (CO)
  o Ammonia (NH3)
  o Ozone
  o Lead
  o Benzene
  o Benzopyrene
  o Arsenic
  o Nickel

OARFISH
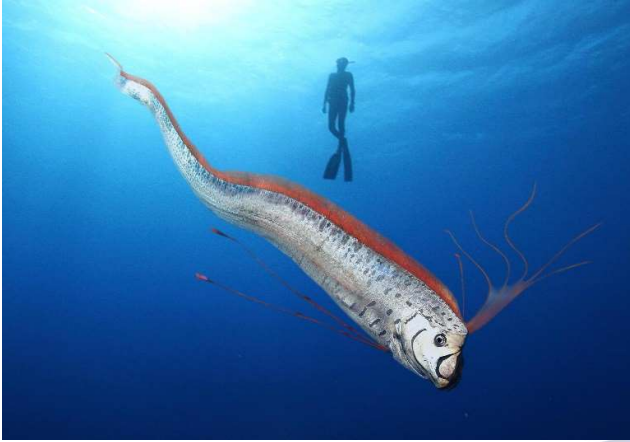
- It is also known as Doomsday Fish and the "sea serpent" is a deep-sea dweller that rarely comes near the surface..
- **Distribution**– Found in the deep-sea waters of the Pacific, Atlantic, and Indian Oceans.
- **Habitat**– Resides at depths of 200 to 1,000 meters, typically near continental slopes and oceanic trenches.

Physical & Biological Characteristics

- **Size:** The longest bony fish in the world, growing up to 11 meters.
- **Appearance**: Features a ribbon-like, shimmering silver body with red dorsal fins extending along its length.
- **Diet**: Primarily consumes krill, plankton, and small crustaceans.
- **Lifespan**: Estimated to live up to 20 years, though rarely observed due to its deep-sea habitat.

Folklore & Earthquake Myths

- In Japanese mythology, the oarfish is referred to as "Ryugu no tsukai" or "Messenger from the Sea God's Palace."
- It is believed to surface before earthquakes and tsunamis, fueling legends of its connection to natural disasters.

GILOY

About Giloy

- It is commonly known as **Guduchi** and familiar as **Amrita in Sanskrit**, which translates to the 'herb of immortality', because of its abundant beneficial properties

- It is a **popular herb** and has been used in therapeutics for a long **time in Ayush systems.**

- **Distribution:** It is a large climber with succulent, corky and grooved stems. It is found almost throughout India.

- It grows well in almost all types of soils and under varying climatic conditions. The plant is cultivated by stem cutting in the month of May-June.

- It is commonly used in the **management of fevers**. It is one of the important herbs for the management of gouty arthritis.

- The increasing number of clinical studies and laboratory research suggests that Giloy may have a **significant role in cancer therapy**, **autoimmune disease management, and even inflammatory disorders**.

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GANGETIC RIVER DOLPHIN

- The first ever estimate of Gangetic dolphins, the only riverine dolphins in India, has found **6,327 of them in the river Ganga and its tributaries**
- It is a freshwater species and one of the few river dolphins found in the world. It inhabits the **Ganges-Brahmaputra-Meghna** and **Karnaphuli-Sangu River systems** of Nepal, India, and Bangladesh.
- Scientific name: Platanista gangetica
- It has been officially recognized as **India's National Aquatic Animal.**
- It can only live in freshwater and is essentially blind. They **hunt by emitting ultrasonic sounds, which bounces off of fish and other prey, enabling them to "see" an image** in their mind.
- They are frequently found alone or in small groups, and generally a mother and calf travel together.
- **Females are larger than males** and give birth once every two to three years to only one calf.
- **Being a mammal, the Gangetic River Dolphin cannot breathe in water** and must surface every 30-120 seconds.

Protection Status:

- International Union for Conservation of Nature **(IUCN): Endangered**
- Indian **Wildlife (Protection) Act 1972: Schedule I**
- Convention on International Trade in Endangered Species **(CITES): Appendix I**

SEAGRASS

- It is a flowering **plant** that **grows submerged** in shallow **marine waters like bays and lagoons.**
- They are so-named because most species have long green, grass-like leaves.

Characteristics of Seagrass

- Seagrasses have roots, stems, and leaves and produce flowers and seeds.

  - Like terrestrial plants, **seagrass also photosynthesizes** and manufactures their own food and releases oxygen.
  - They evolved around 100 million years ago, and there are approximately 72 different seagrass species that belong to four major groups.

Distribution of Seagrass

- They are found on **all continents except Antarctica.**
- The **tropical waters** of the **Indo-Pacific hold the highest diversity** of seagrasses in the world.
- India too has vast seagrass meadows, home to 16 species of seagrass with major concentrations in the **Gulf of Mannar, Palk Bay, Andaman and Nicobar Islands, Lakshadweep Islands and the Gulf of Kutch.**

Advantages of Seagrass

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- They are better than trees for **capturing carbon** and providing food for millions of people. Beyond supporting marine life, seagrass also acts **as a natural barrier, protecting coastal communities from storms and erosion.**

- These underwater plants can **store carbon up to 35 times faster than tropical rainforests,** locking it away for thousands of years.

- **Threats:** Pollution from cities, industries, and agriculture continues to degrade these meadows, while coastal development and tourism put additional pressure on fragile habitats of Seagrass.

NARWHALS

- It is also known as a narwhale (Monodon monoceros), is a **medium-sized toothed whale**.

- It has a big **horn-like tusk which gives** them a very distinctive appearance.

Features of Narwhals

- Narwhals **change color as they age**. Newborns are a blue-gray, juveniles are blue-black and adults are a mottled gray. Old narwhals are nearly all white.

- The tusk is, **in fact, a tooth** that **grows out of the male's upper jaw and** has **sensory capability** and up to 10 million nerve endings inside.

- It is believed that the tusk plays a role in **competition for mates, including mating displays**.

- It uses tusks in the wild to **investigate, manipulate and influence** the behavior of Arctic char (Salvelinus alpinus), including delivering sufficient force with their tusks to stun and **possibly kill the fish.**

- They exhibited remarkable dexterity, precision and speed of movement of the tusk, and regularly made **adjustments to track the moving target**. The tusk, especially the **tip of the tusk**, was **used to interrogate and manipulate the target** by brief contacts.

- Narwhals are **polygynous** and mating usually occurs from **March to May.**

- They give birth to a single calf and they are born tail first. The **tusks of males do not grow** until they are weaned when they are **about one year old.**

- **Diet:** Narwhals feed on Greenland halibut, Arctic and polar cod, squid and shrimp.

- **Distribution of Narwhals:** They spend their lives in the **Arctic waters** of **Canada, Greenland, Norway and Russia.**

- **Threats:** Oil and gas development and climate change pose threats to narwhals.

- **Conservation Status of Narwhals**
  o **IUCN:** Near Threatened

CIVET

- It is any of a number of **long-bodied, short-legged carnivores** of the **family Viverridae.**

- The Viverridae family includes civets, genets, oyans, and linsangs.

- There are about **15 to 20 species**, placed in 10 to 12 genera.

- Civets are found in **Africa, southern Europe, and Asia**.

- There are **8 different species** of Wild civets found **in India,** out of which Common Palm civets and Small Indian civets can be spotted across the subcontinent.

- The **rarest** of all civets **is the Malabar large-spotted civet** (Viverra civettina), also known as the **Malabar civet, endemic to the Western Ghats.**

- It is classified as **'Critically Endangered'** under the IUCN Red List.

Civet Features

- Rather **catlike in appearance,** they have a **thickly furred tail, small ears,** and a **pointed snout.**

- The **coloration varie**s widely among the species but c**ommonly is buff or grayish** with a pattern of black spots or stripes or both.

- Length ranges from about 40 to 85 cm), with the tail accounting for another 13 to 66 cm, and weight ranges from 1.5 to 11 kg).

- Civets are **usually solitary and live in tree hollows,** among rocks, and in similar places, **coming out to forage at night.**

- They feed on fruits and insects, opportunistically supplemented with small animals.

COMPENSATORY AFFORESTATION FUND MANAGEMENT AND PLANNING AUTHORITY (CAMPA)

Context: The Supreme Court recently sought a response from the Uttarakhand Chief Secretary to allegations based on a CAG report about the misuse of CAMPA funds.

COMPENSATORY AFFORESTATION FUND BILL

PRINCIPLE OBJECTIVE

SETTING UP OF A
1 National Compensatory Afforestation Fund
2 State Compensatory Afforestation Fund

These authorities will monitor the utilisation of funds

Any user agency which diverts forest land for non-forest purpose is required to deposit prescribed amount

90% of collected payments will go to state fund

10% of collected payments will go to national fund

(This provision may be amended as standing committee wants state fund to get 95% of the payments)

10%
90%

Funds will be used for
1. Increasing forest cover
2. Forest regeneration
3. Wildlife protection
4. Related activities to protect green cover

Bill is also meant for setting up
1. A national management and planning authority at the Centre
2. State-level authority in respective states

About CAMPA:

- The CAMPA was originally formed as a result of a Supreme Court order in a case where some NGOs had approached the court regarding discrepancies in implementation of compensatory afforestation.

- The Court ordered that there will be a **Compensatory Afforestation Fund Management and Planning Authority (CAMPA)** as National Advisory Council under the **chairmanship** of the **Union Minister of Environment & Forests** for monitoring, technical assistance and evaluation of compensatory afforestation activities.

Objective of CAMPA: promote afforestation and regeneration activities as a way of compensating for forest land diverted to non-forest uses.

- According to the **Forest (Conservation) Act 1980**, the project that wishes to divert the land must identify land elsewhere to afforest and pay the land value for the afforestation exercise.

Compensatory Afforestation Fund:

- The **Compensatory Afforestation Fund Act** was passed by the centre in 2016 and the related rules were notified in 2018.
- The **CAF Act** was enacted to manage the funds collected for compensatory afforestation which till then was managed by ad hoc Compensatory Afforestation Fund Management and Planning Authority (CAMPA).
- Presently the CAMPA is a **statutory body** under the CAF Act.
- As per the rules, **90%** of the CAF money is to be given to the **states** while **10%** is to be retained by the **Centre**.
- The funds can be used for treatment of catchment areas, assisted natural generation, forest management, wildlife protection and management, relocation of villages from protected areas, managing human-wildlife conflicts, training and awareness generation, supply of wood saving devices and allied activities.

INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (IPCC)

Context: The IPCC has begun work on its 7th cycle of assessment reports.

About IPCC:

- The **Intergovernmental Panel on Climate Change (IPCC)** is the United Nations body for **assessing the science related to climate change**.
- It is an organization of governments that are members of the UN or WMO.
- It was **set up in 1988** by the **World Meteorological Organization (WMO)** and **United Nations Environment Programme (UNEP)**.
- It aims to **provide policymakers with regular assessments of the scientific basis of climate change**, its impacts and future risks, and options for adaptation and mitigation.
- **IPCC assessments** provide a scientific basis for governments at all levels to develop climate-related policies, and they underlie negotiations at the UN Climate Conference – the **United Nations Framework Convention on Climate Change (UNFCCC)**.
- The IPCC does not conduct its own original research.

IPCC Assessment Report:

- Since 1988, the IPCC has had **six assessment cycles** and delivered **six Assessment Reports**, the most comprehensive scientific reports about climate change produced worldwide.
- It is currently on its 7th assessment cycle.

BAR-HEADED GOOSE

About Bar-Headed Goose

- It is a **migratory bird species**.

- Scientific name: Anser indicus

- It is known to be **one of the highest-flying birds** in the world.

- It can fly at altitudes of 25,000 feet, while **migrating over the Himalayas**, where oxygen and temperature levels are extremely low.

Distribution

- **Native to central Asia,** where the species breeds, Bar-headed Geese are found in countries like **India, Pakistan, Nepal, Kazakhstan, Bangladesh,** Myanmar, Japan, and other nearby regions.

- They **migrate to parts of South Asia** during winters.

- **In India**, their geographical range extends from the **northeast to the southern parts** of the country.

Habitat

- They reside near water bodies, preferring high-altitude lakes during the breeding season and freshwater lakes, rivers, and streams in their wintering habitats. They are also found in rocky regions, farmlands and marshes.

Features

- This species is **gray and white** with two horseshoe-shaped, **brownish-black bars on the back of its white head.**

- The body is gray overall, and the **bill and legs are pink, orange, or yellow.**

- Although male and female birds appear similar, the male bird is slightly larger than the female.

- They **usually form monogamous pairs** and are seasonal breeders.

Conservation Status

- It is classified as **'Least Concern' under the IUCN Red List.**

WHALE SHARK

- It is the **largest fish in the world** and the largest fish known to have lived on this planet.

- They are one of only three species of filter feeding sharks.

- **Distribution:** They can be found in **all temperate and tropical oceans** around the world, except the Mediterranean Sea.

- **Appearance**

  o They are dark grey on top and light underneath, with a series of light spots or stripes covering the dark parts of their bodies. This helps to **camouflage** them as they swim.

  o Unlike most shark species, its **mouth** is **located at the front** of the **head** (terminal) instead of the

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underside of the rostrum (subterminal).

- o They are **filter feeders** and can neither bite nor chew. They can process more than 6,000 litres of water an hour through their gills.

- o Inside the mouth are specialized flaps **called velums**. These stop the backflow of water as the whale shark closes its mouth, preventing the loss of food.

- **Food Habit:** They feed on **plankton** and travel large distances to find enough food to sustain their huge size, and to reproduce.

- They also eat small and large fish and mollusks, including sardines, anchovies, mackerels, squid, and even small tuna and albacore.

- **Conservation Status:**
  - o **IUCN:** Endangered
  - o **Wildlife Protection Act 1972:** Schedule I

- **Threats:** The whale sharks continue to face challenges primarily due to **bycatch** and accidental **capture in fishing nets**, illegal hunting and habitat degradation.

- A global study indicates that over the past 75 years, the world's whale shark population has decreased by 50%.

GRADED RESPONSE ACTION PLAN (GRAP)

Context: Due to improvements in air quality in Delhi, restrictions placed under GRAP have been fully removed from NCR by the CAQM.

What is GRAP ?

- GRAP is a framework designed to **combat air pollution in the Delhi-NCR region.**

- It was introduced as an emergency response mechanism, and its implementation is triggered **when the Air Quality Index (AQI) reaches "poor" levels.**

- GRAP is particularly **important during the winter months** when air quality tends to plummet.

- The **Commission for Air Quality Management (CAQM)** in NCR and adjoining areas oversees the implementation of GRAP.

- It collaborates with the Ministry of Environment, Forest and Climate Change (MoEFCC).

- The CAQM has constituted a sub-committee for the operationalization of the GRAP.

- The orders and **directions of the CAQM will prevail in case of any conflict between directions** issued by the State governments and the CAQM.

- **GRAP consists of four stages**, each with targeted actions to be taken by the necessary authorities and agencies.
  - o Stage I: "Poor" air quality (Delhi AQI: 201-300)
  - o Stage II: "Very Poor" air quality (Delhi AQI: 301-400)
  - o Stage III: "Severe" air quality (Delhi AQI: 401-450)
  - o Stage IV: "Severe+" air quality (Delhi AQI > 450)

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About the CAQM:

- It is a **statutory body** created by the **Commission for Air Quality Management in National Capital Region (NCR) and Adjoining Areas, Act 2021**.
- **Mandate:** Coordination, research, identification, and resolution of problems surrounding the air quality index and matters incidental thereto.
- The CAQM is required to coordinate its actions on monitoring of air quality with the government of **Delhi and the adjoining states** of **Punjab, Haryana, Rajasthan, and Uttar Pradesh**.

Powers:

- **Restricting activities** influencing air quality.
- **Investigating and conducting research** related to environmental pollution impacting air quality, preparing codes and guidelines to prevent and control air pollution,
- Issuing **directions** on matters including inspections, or regulations.
- All the directions and orders by the CAQM are of **binding nature**, and any person, officer, or authority shall be bound to comply with the same.
- The commission is **directly accountable to the Parliament**.

Composition of CAQM:

- **Chairperson:** A government official of the rank of **Secretary or Chief Secretary**. They will hold the post for three years or until they attain the age of 70 years.
- It has **five ex officio members** who are either Chief Secretaries or Secretaries in charge of the departments related to environment protection in Delhi, Punjab, Haryana, Rajasthan, and Uttar Pradesh.
- Three full time technical members.
- Three members from NGOs.
- Technical members from Central Pollution Control Board (CPCB), ISRO, and NITI Aayog.

CARACAL

About Caracal

- It is a **medium-sized nocturnal wildcat**.
- **In India,** it is **called siya gosh,** a Persian name that translates as 'black Ear'.
- Scientific Name: Caracal caracal

Distribution:

- Caracals live on rocky hills or grasslands in the **Middle East, Africa, and South Asia.**
- **Their numbers in India** have dwindled to an **estimated 50, primarily in Rajasthan and Gujarat.**
- **Habitat**: Caracals are adaptable animals that can live in a variety of environments, including **grasslands, savannas, scrublands, and forests.**

Features

- They have **slender bodies and long legs**; they are the **largest of the African small cats.**
- They can weigh between 8-18 kg and can reach up to one meter in length. Males usually weigh more and are bigger than females.
- The **fur is short** and dense and is **tawny-brown to reddish-tan in colour** with whitish underparts.
- Their **face** is marked with **dark lines and white spots** around their eyes. It has **large, black pointed ears.**

- They **live in small herds**. and their **shy and elusive nature** makes them difficult to spot in the wild.
- **Caracal Conservation status:**
  - **IUCN Red List: Least concern**
  - The Wild Life (Protection) Act, 1972: Schedule I

PROJECT CHEETAH

Context: A female cheetah and her four cubs were pelted with stones as they tried to hunt a calf on the outskirts of a village in Madhya Pradesh, raising concerns over the implementation of Project Cheetah.

THE RETURN OF CHEETAHS
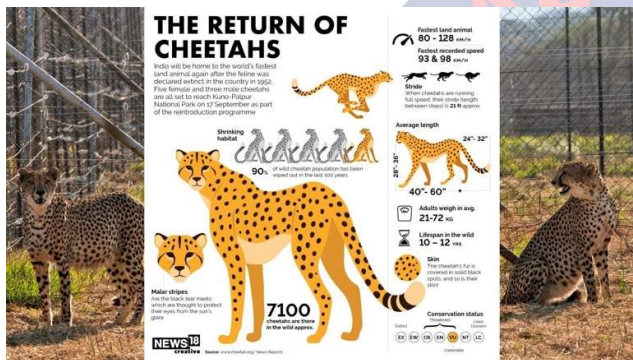
About Project Cheetah:

- The **Cheetah Reintroduction Project** in India formally commenced on September 17, 2022, with the objective of **restoring the population of cheetahs**, which were declared **extinct in the country in 1952**.
- The project involves the **translocation of cheetahs** from **South Africa** and **Namibia** to **Kuno National Park** in Madhya Pradesh.
- The Action Plan for Introduction of Cheetah in India was released by MoEF&CC at the **19th meeting of the National Tiger Conservation Authority**.

Reintroduction Process:

- **20 radio-collared cheetahs** were translocated from South Africa (12 cheetahs) and Namibia (8 cheetahs) to Kuno National Park.

- In March 2023, India announced the birth of 4 cubs to one of the eight cheetahs that were relocated from Namibia.
- The cheetahs underwent a quarantine period and were then shifted to larger acclimatization enclosures.
- Currently, there are 11 cheetahs in free-ranging condition and 5 animals, including a cub, in quarantine enclosures.
- Dedicated monitoring teams ensure round-the-clock monitoring of the free-ranging cheetahs.

Mortalities: Only 13 out of the original 20 are presently alive.

Project Implementation and Challenges:

- The project is implemented by the **NTCA** in collaboration with the **Madhya Pradesh Forest Department**, **Wildlife Institute of India (WII)**, and cheetah experts from Namibia and South Africa.
- Challenges in the project include monitoring, protection, and management of the reintroduced cheetah population.

African Cheetah v. Asiatic Cheetah:

African	Asiatic
Slightly brownish and golden skin; thicker than the Asiatic cheetahs	Slightly smaller than the African ones
More prominent spots and lines on the face	Pale yellowish fawn coloured skin – more fur under body, belly specifically
Found all over the African continent	Found only in Iran; the country claims there are only 12 of them left
IUCN: Vulnerable	Critically endangered

Science & Technology

ADITYA L-1 MISSION

Context: India's solar mission, Aditya-L1, has made a ground-breaking observation as one of its payloads captured the first-ever image of a solar flare 'kernel'.

About Aditya L-1 Mission:

- Its primary objective is to closely observe the Sun and **gather insights into corona, solar flares, solar winds, and Coronal Mass Ejections (CMEs).**
- It is equipped with **7 advanced payloads** for these scientific missions.
- The mission promises **round-the-clock imaging of the Sun**, enabling an unprecedented understanding of its behaviour and impacts.
- It aims to understand physics of solar corona and chromosphere and its heating mechanism for a 5-year period.
- The mission was launched from the Satish Dhawan Space Centre in Sriharikota on a **PSLV-XL rocket.**
- The spacecraft is planned to be placed in a halo orbit around the **Lagrangian point 1 (L1) of the Sun-Earth system**, which is approximately 1.5 million kilometres away from the Earth.
- While **NASA's Parker Solar Probe ventured much closer** to the Sun, **Aditya-L1 will focus on direct solar observations from a greater distance**.
-

Payloads on the mission:

- Its **primary payload is the Visible Emission Line Coronagraph (VELC)**, a solar coronagraph capable of simultaneous imaging, spectroscopy and spectro-polarimetry
- Other Payloads:
  - o Solar Ultraviolet Imaging Telescope (SUIT)
  - o Solar Low Energy X-ray Spectrometer (SoLEXS)
  - o High Energy L1 Orbiting X-ray Spectrometer (HEL1OS)
  - o Aditya Solar wind Particle EXperiment (ASPEX)
  - o Plasma Analyser Package for Aditya (PAPA)
  - o MAG (to measure the magnetic field of the Sun)

About Lagrange Points:

- ✓ Lagrange points are special positions in space where gravitational forces of two large orbiting bodies, such as the Sun and the Earth, balance each other out.
- ✓ This means that an object, such as a spacecraft, can stay at these points without using much fuel to maintain its correct orbit.
- ✓ There are 5 such points between the Sun and the Earth, each with unique characteristics. These points enable a small mass to orbit in a stable pattern amid two larger masses.

A solar flare kernel refers to the brightest and most intense regions within a solar flare, where energy release is highly concentrated. They are associated with magnetic reconnection events in the Sun's atmosphere, leading to sudden bursts of radiation, energetic particles, and X-ray emissions.

NATIONAL GREEN HYDROGEN MISSION (NGHM)

Context: As part of the National Green Hydrogen Mission, the Union Government has initiated five pilot projects for using Hydrogen in buses and trucks.
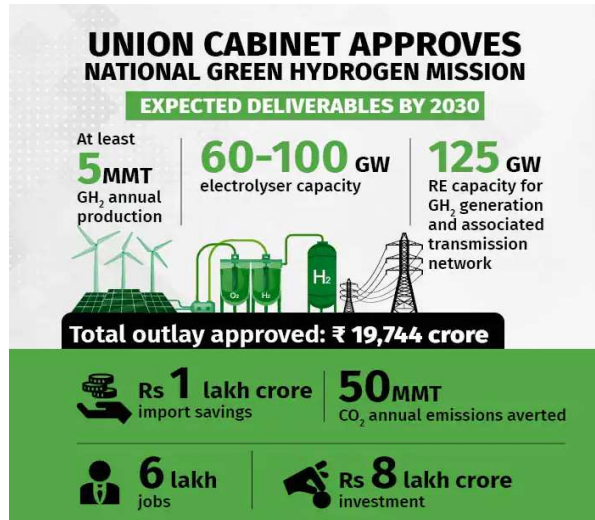
About NGHM:

- It was launched in January 2023 by the **Ministry of New & Renewable Energy.** It commits an outlay of ₹ 19,744 crore from 2023 to 2030.
- Union govt. to set up manufacturing zones, connectivity to grid, and **free transmission for 25 years if facility commissioned before Jun 2025.**
- Producers allowed to set up **bunkers near ports** for storage for later export.
- Production target raised from 1 million metric tonnes (MMT) per year in 2021 to **5 MMT per year by 2030.** This target would create a **demand for 100-125 GW of renewable energy & 60-100 GW of electrolysers.**
- Aims for an investment opportunity of ₹8 lakh crore, while **reducing annual emissions by 50 MMT.**
- Manufacturers allowed to **purchase renewable energy from power exchange or set it up themselves** or through any other developer.

- Facility for producers to **bank any surplus renewable energy generated** with discoms up to 30 days.
- Discoms procuring renewable energy to supply green hydrogen producers will do so at concessional rates. Such procurement by discoms will **count towards the state's Renewable Purchase Obligations (RPO).**
- Aims for cumulative **reduction in fossil fuel imports by Rs 1 lakh crore**.

Sub Schemes:

- **Strategic Interventions for Green Hydrogen Transition Programme (SIGHT):** It will fund the domestic manufacturing of electrolysers and produce green hydrogen.
- **Green Hydrogen Hubs:** States and regions capable of supporting large scale production and/or utilization of hydrogen will be identified and developed as Green Hydrogen Hubs.

About SIGHT Programme:

- It is an integral component of NGHM to foster domestic electrolyser manufacturing and production.
- An investment of Rs 17,490 crore was allocated to SIGHT **until 2029-30.**
- **Dual Incentive Mechanisms:** SIGHT introduces two distinct financial incentive mechanisms:
  - Incentive for Electrolyser Manufacturing: To boost the production of essential electrolysis equipment.
  - Incentive for Green Hydrogen Production: Encouraging the generation of clean and sustainable green hydrogen.
- Incentive programs will evolve in **response to market dynamics and technological advancements**, ensuring the Mission's adaptability.

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- Solar Energy Corporation of India (SECI) is entrusted with executing the scheme, driving its effective implementation.

Current status of Hydrogen Production in India:

- India produces **6.5 MMT per annum** of hydrogen, predominantly for use in **oil refineries & fertilizer production.**

- Most of India's current hydrogen supply is **Grey Hydrogen**, which is produced using fossil fuels.

- Green Hydrogen production requires ample supply of renewable energy for the electrolysis process.

> When electricity is passed through water, it splits it into oxygen and hydrogen via electrolysis. And if the electricity used for this comes from a renewable source, then the hydrogen thus produced is called green hydrogen.

NEGLECTED TROPICAL DISEASES

Context: The ASHAs have played an important role in addressing neglected tropical diseases in India.

Neglected tropical diseases:

World Health Organization

1 Are **common** in **tropical countries**

2 **Lacks public health attention** at global and national level

3 **Mainly affect people living in poverty**, with **inadequate access** to clean water, basic sanitation and health care

About Neglected Tropical Diseases:

- NTDs are a **diverse group of 20 conditions/diseases** that are **mainly prevalent in tropical areas**, where they thrive among people living in impoverished communities.

- They are caused by a **variety of pathogens** (including viruses, bacteria, parasites, fungi, and toxins) and are associated with devastating health, social, and economic consequences.

- These include: Buruli ulcer, Chagas disease, dengue and chikungunya, Guinea worm disease, echinococcosis, foodborne trematodiases, African sleeping sickness, leishmaniasis, leprosy (Hansen's disease), lymphatic filariasis, mycetoma, onchocerciasis (river blindness), rabies, scabies (and other ectoparasites), schistosomiasis, soil-transmitted helminthiases, snakebite envenoming, taeniasis/cysticercosis, trachoma, and yaws.

- **India is home to about 12 NTDs**.

- The World Health Organization (WHO) estimates that NTDs **affect more than 1 billion people**, while the number of people requiring NTD interventions (both preventive and curative) is 1.6 billion.

- The epidemiology of NTDs is complex and often related to environmental conditions.

- Many of them are **vector-borne**, have animal reservoirs, and are associated with complex life cycles. All these factors make their public-health control challenging.

- **Global Initiative to end NTDs**: The **WHO's new road map for 2021–2030** calls for three strategic shifts to end NTDs:
  - From measuring process to measuring impact.
  - From disease-specific planning and programming to collaborative work across sectors.

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o From externally driven agendas to programmes that are country-owned and country-financed.

CORONAL MASS EJECTIONS

Context: Scientists from the Indian Institute of Astrophysics have reported observations of a flareless coronal mass ejection from the solar atmosphere with the Visible Emission Line Coronagraph (VELC) instrument on board Aditya L-1.
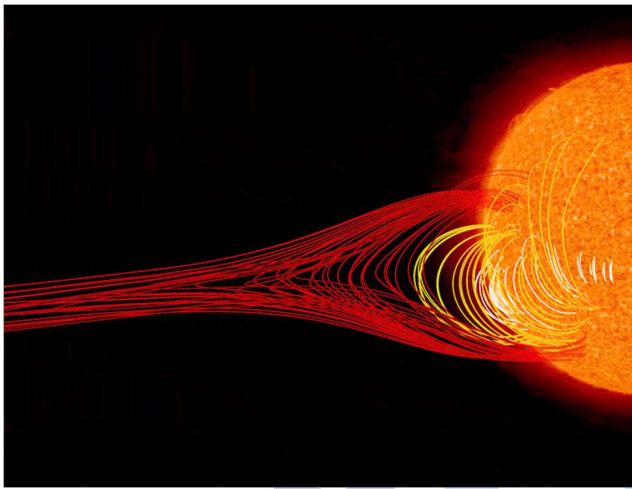
About Coronal Mass Ejections:

- A **coronal mass ejection (CME)** is a large **expulsion of plasma and magnetic fields** from the Sun's corona into space.
- CMEs were **discovered in 1971** and established their importance in solar-terrestrial relations later in the 1980s.
- It consists of **massive clouds of solar plasma and magnetic field lines**.
- It typically accompanies solar flares and filament eruptions.
- The frequency of CMEs **varies with the 11-year solar cycle**, with **about one a week observed during solar minimum** and an average of **two to three CMEs per day observed near solar maximum.**
- They travel at thousands of km per hour.
- They can lead to **geomagnetic storms, aurorae**, and in extreme cases, **damage to electrical power grids**.

- Not all CMEs interact with Earth, but those that do can cause disruptions to satellite communications and power grids.
- **Halo CMEs** are **Earth-directed CMEs** visible as **rings in white-light coronagraph observations**.

Aditya-L1

✓ **Aditya-L1** mission is **India's first space mission to observe the Sun**.

✓ It was launched on September 2nd 2023 to **observe the Sun and the solar corona from the L1 Point**.

✓ Aditya is placed in L1 Halo orbit which is about **1.5 million km from the Earth**.

✓ The orbit allows the mission to look at the Sun continuously.

✓ L1 refers to **Lagrange Point** 1, one of 5 points in the orbital plane of the Earth-Sun system.

✓ **Lagrange Points** are positions in space where the gravitational forces of a two-body system like the Sun and Earth balance out each other, allowing a spacecraft to "hover" in a stable orbit.

NATIONAL QUANTUM MISSION

Context: Union Govt. has launched four Thematic Hubs (specialized research centres) under India's National Quantum Mission.
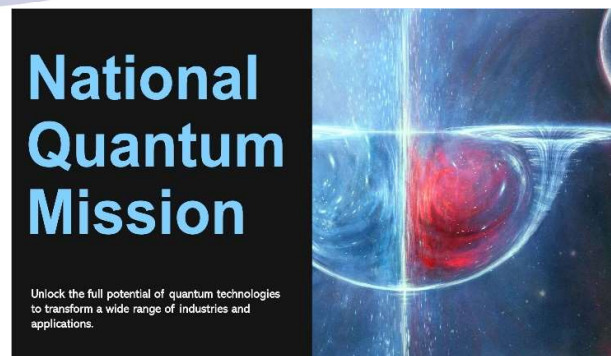
National Quantum Mission (NQM):

- Implemented by **DST from 2023-2031** to nurture, and scale up scientific and

industrial R&D and create a vibrant & innovative ecosystem in quantum technology.

- India is the **7th country to have a quantum mission** after USA, Austria, Finland, France, Canada and China.

Objectives of NQM:

- Developing **intermediate scale quantum computers** with **50-100 physical qubits in 5 years and 50-1000 physical qubits in 8 years.**
- **Help develop magnetometers** with high sensitivity for precision timing, communications, and navigation.
- Support **design and synthesis of quantum materials** such as superconductors and materials for fabrication of quantum devices.

What is Quantum Computing ?

- It is a rapidly-emerging technology that harnesses the **laws of quantum mechanics to solve problems too complex for classical computers**.
- While today's classical computers store information as binary 0 and 1 states, they **carry out calculations using quantum bits (qubits).**
- Unlike a bit that has to be a 0 or a 1, a **qubit can be in a combination of states** – this allows for exponentially larger calculations and gives them the potential to solve complex problems which even the most powerful supercomputers are not capable of.

About Quantum Satellites:

- In Dec 2024, the Mission Governing Board of the National Quantum Mission, stated that India plans to launch a quantum satellite in 2-3 years for quantum communications.
- Quantum satellites **use principles of quantum mechanics, such as quantum entanglement & quantum key distribution (QKD),** to establish secure communication channels.
- Quantum satellites use QKD, a secure communication method that applies the principles of quantum mechanics to share encryption keys. These **satellites generate and transmit quantum particles, such as photons**, **which encode the encryption keys.**
- Through QKD, the encryption keys are distributed securely as any **attempt to intercept the particles alters their quantum state**, immediately signalling a breach.
- The benefits of using quantum satellites include **enhanced cybersecurity,** as they are immune to traditional hacking; enabling **global-scale quantum networks**; facilitating **growth of quantum communication research**; and potential applications in **military and financial sectors** where data security is paramount.

About Quantum Hubs:

- Quantum Hubs, also called Thematic Hubs (T-Hubs), are **research centres established under the NQM**. They aim to drive innovation, research, and development in different aspects of quantum technology.
- **4 T-Hubs have been established** in major institutions. Each hub focuses on a specific domain of research:
  - o Quantum Computing (IISc Bengaluru).
  - o Quantum Communication (IIT Bombay).
  - o Quantum Sensing & Metrology (IIT Delhi).
  - o Quantum Materials & Devices (IIT Madras).
- **IIT Kanpur serves as the central coordinating institution**, overseeing administration and funding allocation.

Quantum Technology is a field that deals with principles of quantum mechanics (study of behaviour of matter and energy at atomic and subatomic levels).

Terms related to Quantum Computing

- **Qubit:** A qubit is the basic unit of quantum information, analogous to a classical binary bit but capable of representing both 0 and 1 simultaneously due to quantum superposition.
- **Superposition:** Superposition is a fundamental principle of quantum mechanics where a quantum system can exist in multiple states at once until it is measured.
- **Entanglement:** Entanglement is a quantum phenomenon where two or more particles become interconnected, such that the state of one particle instantly influences the state of the other, regardless of the distance between them.
- **Decoherence:** Decoherence is the process by which a quantum system loses its quantum properties, such as superposition and entanglement, due to interactions with its environment, effectively becoming classical.
- **Quantum Supremacy:** Quantum supremacy is the point at which a quantum computer can perform a calculation or solve a problem that is infeasible for classical computers to achieve in a reasonable time.

DEEP OCEAN MISSION

Context: The Minister for Earth Sciences stated in Parliament that India is set to launch its first human underwater submersible in 2025.

About Deep Ocean Mission (DOM):

- India's DOM aims to explore and harness the immense potential of the ocean's depths.
- DOM will deploy an **indigenous submersible with a 3-member crew to reach a depth of 6,000 meters.**
- DOM is in line with India's Blue Economy Initiatives, including the **Draft Blue Economy Policy.**
- DOM is a **mission under the PM's Science, Technology, and Innovation Advisory Council** (PM-STIAC)
- Nodal agency: **Ministry of Earth Science (MoES)**

Deep Ocean Mission Aims:

- Development of **deep-sea mining tech** and a crewed submersible for exploring depths of 6,000 m.
- Ocean **climate change advisory services**, involving extensive ocean observations and modelling.
- Technological innovations for deep-sea **biodiversity exploration** and conservation.
- Survey to identify potential sites of multi-metal **hydrothermal sulphides mineralization.**
- Establishment of an advanced **Marine Station for Ocean Biology.**

Strategic Significance of DOM:

- DOM aligns with 'New India 2030' vision, focusing on a **blue economy as a core objective for India's growth.**
- It is part of the **United Nations' 'Decade of Ocean Science'** (2021-2030).
- It involves collaborative efforts between **multiple MoES Institutes**:
  o Centre for Marine Living Resources and Ecology (CMLRE)
  o Indian National Centre for Ocean Information Services (INCOIS)
  o National Centre for Coastal Research (NCCR)
  o National Centre for Polar and Ocean Research (NCPOR)
  o National Institute of Ocean Technology (NIOT)

Samudrayaan and Matsya6000:

- Launched in 2021 under DOM, **Samudrayaan is India's flagship crewed expedition to reach a depth of 6,000 m** in the Central Indian Ocean.
- The mission will utilize **Matsya6000, a deep-ocean submersible** designed for a three-member crew.

About Matsya6000:

- It will **initially operate at a depth of 500 meters**, with the goal of reaching a depth of 6,000 meters by next year.
- It will focus on **exploring untapped underwater resources** and advancing India's blue economy.
- It is being developed using **100% indigenous technology -** thus demonstrating India's commitment to self-reliance in advanced science and innovation.
- It aims to unlock vast underwater resources, including **critical minerals, rare earth elements and undiscovered marine biodiversity.**

CHANDRAYAAN 3

Context: Latest findings by the payloads on Chandrayaan 3 show that water ice may be easier to find on the moon than previously thought.
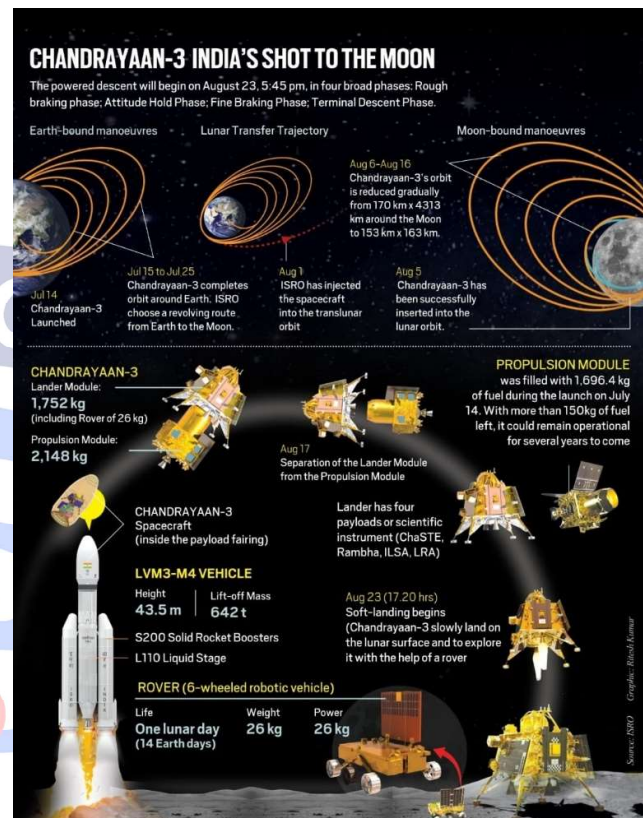
About Chandrayaan 3:

- Chandrayaan-3 is **India's 3rd moon mission** to demonstrate **end-to-end capability in safe landing and roving on the lunar surface**.
- Chandrayaan-3 consists of an indigenous **Lander module (LM) - Vikram, Propulsion module (PM)** and a **Rover Pragyan** with an objective of developing and demonstrating new technologies required for Inter planetary missions.
- The Lander will soft land at a specified lunar site and deploy the Rover which will carry out in-situ chemical analysis of the lunar surface during the course of its mobility.
- It was **launched by LVM3** from Sriharikota.

- It became the **first mission to soft land on the lunar south pole** and India became the **4th country to land on the moon**.

Payloads:

- The **propulsion module** has **Spectro-polarimetry of Habitable Planet Earth (SHAPE)** payload to study the spectral and polarimetric measurements of Earth from the lunar orbit.

- **Lander payloads:**
  - **Chandra's Surface Thermophysical Experiment (ChaSTE):** to measure the thermal conductivity and temperature;
  - **Instrument for Lunar Seismic Activity (ILSA):** for measuring the seismicity around the landing site;
  - **Langmuir Probe (LP):** to estimate the plasma density and its variations.
  - **A passive Laser Retroreflector Array** from NASA is accommodated for **lunar laser ranging studies.**

- **Rover payloads:**
  - **Alpha Particle X-ray Spectrometer (APXS)** and **Laser Induced Breakdown Spectroscope (LIBS)** for deriving the elemental composition in the vicinity of landing site.

The **mission objectives** of Chandrayaan-3 are:

- To demonstrate Safe and Soft Landing on Lunar Surface
- To demonstrate Rover roving on the moon and
- To conduct in-situ scientific experiments.

> 💡 The Chandrayaan 3 landing site has now been named **Shiv Shakti**.

Major Findings:

- **Lunar Surface Temperature:** Chandra's Surface Thermophysical Experiment (ChaSTE) measured temperatures reaching 70 degrees Celsius, surprising scientists who expected temperatures between 20 to 30 degrees Celsius.

- It has also been observed that lunar surface temperatures vary significantly at metre scales suggesting conditions suitable for water ice to migrate and stabilize beneath the surface.

- **Lunar Surface Elements Confirmed:** The **Laser-Induced Breakdown Spectroscopy** instrument onboard 'Pragyan' rover **confirmed the presence of Sulphur on the lunar surface** near the south pole.
  - Elements such as Aluminum, Calcium, Iron, Chromium, Titanium, Manganese, Silicon, and Oxygen were also detected.

PARKER SOLAR PROBE

> **Context:** On March 22, the probe made another attempt to get within 6 million km of the sun, considered a very small distance from the star.

About Parker Solar Probe:

- Launched by **NASA** on August 12, 2018, from Cape Canaveral, Florida.
- Designed to **study the Sun's corona, solar wind, and magnetic field** to understand space weather and its effects on Earth.
- Moves in a **highly elliptical orbit**, using Venus' gravity assist to spiral gradually closer to the Sun.
- Speed: The **fastest human-made object**, reaching 692,000 km/hr.
- **Closest approach:** It will come as close as 3.83 million miles (6.16 million km) from the

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Sun's surface, about **7 times closer than any previous spacecraft**.

Breakthroughs made by Parker:

- Discovery of **"Magnetic Switchbacks":** The probe found sudden reversals in the solar wind's magnetic field, which might help explain how the solar wind accelerates.
- **Detection of Dust-Free Zones:** Contrary to earlier beliefs, the probe found dust-free pockets near the Sun, altering our understanding of solar system dust distribution.
- **First 'Touch' of the Sun (2021):** In April 2021, the probe **entered the Sun's corona**, crossing the **Alfvén surface**—a boundary beyond which solar wind escapes into space.
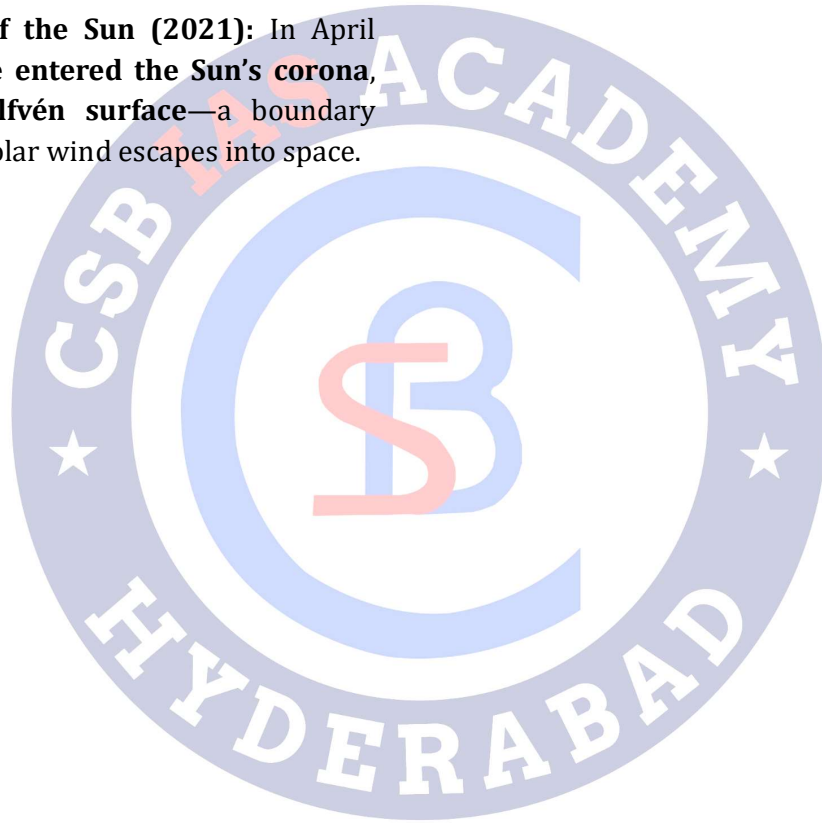
Places in News and Geography

MHADEI WILDLIFE SANCTUARY

- There has recently been a controversy regarding the proposed construction of railway lines near the Mhadei Wildlife Sanctuary (WLS).
- Mhadei WLS is located near the **Chorla Ghat, situated between North Goa and Belagavi.** It borders both Maharashtra and Karnataka.
- The **Mhadei River** flows through this sanctuary.
- Mhadei WLS, along with other protected areas in Goa like Mollem National Park, forms **part of the Western Ghats.**
- The sanctuary plays a vital role in a network of wildlife corridors that **connect tiger populations across the Sahyadri (Maharashtra) and the Kali Tiger Reserves (Karnataka).**
- Mhadei WLS serves as a nesting ground for the **critically endangered Indian Vulture**, underscoring the sanctuary's importance for avian conservation.
- The National Tiger Conservation Authority (NTCA) has **recommended the designation of Mhadei WLS as a tiger reserve** under the Wildlife Protection Act, 1972.

REUNION ISLAND

- It is a **French island** in the **Western Indian Ocean.**
- It lies about 680 km **east of Madagascar** and 180 km **southwest of Mauritius.**
- It covers an area of 2,511 sq. km.
- With Mauritius and Rodrigues Islands, they form the **Mascarene Archipelago.**
- The island is **entirely volcanic** and originates on the ocean floor at a depth of 4,000 meters (13,000 feet).
- It consists mainly of **rugged mountains dissected by torrential rivers**.
- It is home to the **highest peak in the Indian Ocean, the Piton des Neige**s, and one of the **most active volcanoes** on the planet, the **Piton de la Fournaise.**
- The **capital is Saint-Deni**s, on the northern coast
- Réunion was first **settled in the 17th century by colonists from France.**
- **Slave labourers were brought** in from East Africa to work on plantations, and later Malays, Annamites, Chinese, and Malabar Indians were imported as indentured labourers.

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- **Today the greatest proportion** of the population is of **mixed descent (African, European, and South Asian).**
- Its **economy** is based largely on the **export of sugar.** Other products include meat and milk products, rum, molasses, tobacco, geranium essence, and vanilla.

RUSHIKULYA RIVER

- It is one of **Odisha's prominent rivers**, flowing primarily through the districts of Kandhamal, Ganjam, and Boudh.
- **Course**:
  - **Originating** at an elevation of approximately 1000 meters from the **Daringbadi hills** in the **Eastern Ghats**—often referred to as the '**Kashmir of Odisha**' for its scenic beauty—the river travels a length of around **165 kilometers** before **emptying into the Bay of Bengal** near the town of Ganjam.
  - Unlike many other rivers, the Rushikulya River does **not form a delta at its mouth,** and it flows directly into the Bay of Bengal.
  - The Rushikulya River basin encompasses a catchment area of roughly 7500 sq.km.
- **Tributaries**: Its tributaries are the **Baghua**, the **Dhanei,** and the **Badanadi** etc.

- One of the most famous attractions near the river is the **Olive Ridley Turtle Nesting Site,** located on the coast **where the** Rushikulya **River meets the Bay of Bengal.**
- Each year, between January and March, **thousands of Olive Ridley Turtles come** to the shores **to lay their eggs**, creating a spectacular natural **event known as Arribada.**

ABKHAZIA AND SOUTH OSSETIA

- **Abkhazia, officially the Republic of Abkhazia, is a partially recognized state in the South Caucasus**, on the eastern coast of the Black Sea, at the intersection of Eastern Europe and West Asia.
- The political status of Abkhazia is a **central issue of the Abkhazia conflict between Georgia and Russia**. Abkhazia declared independence after its 1992-1993 war with Georgian forces.
- **Abkhazia has been recognized as an independent state by Russia, Nauru, Venezuela, Nicaragua, and Syria.** However, Georgia and nearly all UN member states consider Abkhazia as part of Georgia.
- **South Ossetia is another breakaway region of Georgia** that has declared independence but remains disputed.
- Officially called the Republic of South Ossetia, it is a **partially recognized & landlocked country** in the South Caucasus. As of 2024, **only 5 members of**

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the UN recognize South Ossetia as a **sovereign state – Russia, Venezuela, Nicaragua, Nauru, and Syria**.

- South Ossetia sought independence from Georgia in the aftermath of the USSR's dissolution in 1991. This led to tensions that culminated in the **2008 Russo-Georgian War.**

- After the 2008 war, **Russia recognized both Abkhazia and South Ossetia as independent states,** but few other countries have followed suit. **Georgia continues to view both these regions as occupied territories.**

DURAND LINE
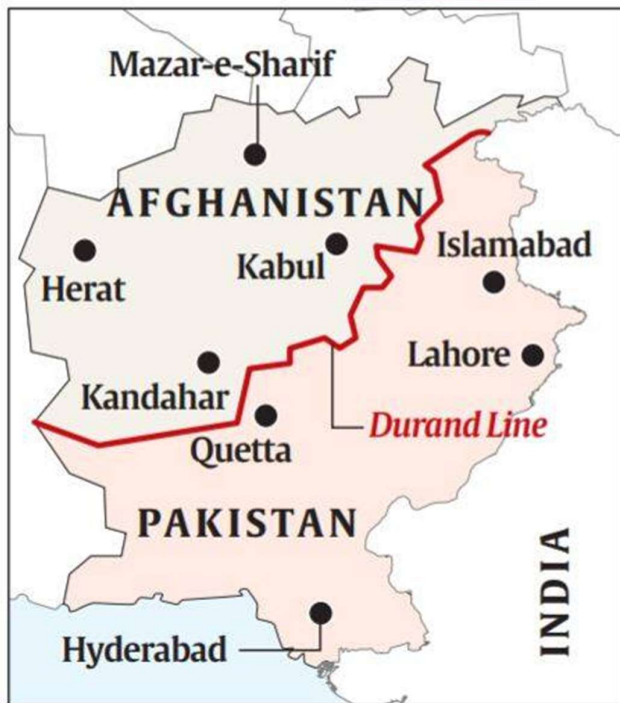
- Established in 1893 as the border between Afghanistan & British India. It now marks the **de-facto border between Afghanistan and Pakistan**.

- It is a **legacy of the 19th century Great Game** between Russia and Britain to use Afghanistan as a buffer.

- The line established Afghanistan as a **buffer zone between British and Russian interests** in the region

- The Durand Line was demarcated in an agreement signed between a British civil servant, Sir Henry Mortimer Durand and Amir Abdur Rahman, the Afghan ruler in 1893.

- The western end of the lines runs to Afghanistan's **border with Iran** and the eastern runs end to the border with **Pakistan-occupied Kashmir (POK) and China.**

- With independence in 1947, Pakistan inherited the Durand Line. But **Afghanistan continues to refuse to recognise** the Durand Line as it cuts through Pashtun tribal areas.

SHENDURNEY WILDLIFE SANCTUARY

- Shendurney Wildlife Sanctuary is located in the **Kollam district of Kerala.** It is a **part of the Agasthyamalai Biosphere Reserve.**
  - **Fauna:** Tiger, Gaur, Sambar Deer, Elephant, Sloth Bear, Lion-tailed Macaque, Malabar Raven, Malabar Banded Swallowtail, etc.

- This sanctuary **derives its name from Chenkurinji** (Gluta travancorica), a flowering tree species endemic to this region of the Western Ghats.

- **Tropical evergreen and semi-evergreen forest** cover a major area of the sanctuary.

- The sanctuary has an artificial lake of nearly 18.69 km² area and also surrounded by the reservoir of **Thenmala Dam.**

- The **first eco-tourism project in India, Thenmala Eco-tourism Project** was

formulated in and around the Shenduruney Wildlife Sanctuary in the 1980s.

WHITE ISLAND

- White Island (also known as **Whakaari**) is an active composite **stratovolcano** in the **Bay of Plenty, New Zealand.**

- It is currently **New Zealand's most active cone volcano**, sitting 48 km off the coast of Whakatāne in the North Island.

  o **Last major eruption: December 9, 2019 (caused fatalities** and injuries)

- The cone has been built up by continuous volcanic activity over the past 150,000 years.

- The **island covers** an area of around **325 hectares,** and this is only about **30 percent of the volcano's mass-the rest is under the sea.**

- It is two kilometres in diameter, and its peak rises 321 m above sea level.

- The island was sighted and **named by Capt. James Cook in 1769.**

- It has numerous hot springs, geysers, and fumaroles.

- It is **privately owned.** In 1953 it was declared a **private scenic reserve** and has been the focus of tourism activities along with geological and ecological science.

LAKE TANGANYIKA

- It is an ancient lake located in **East Africa.**
- **Bordering Countries:** Burundi, Democratic Republic of the Congo (DRC), Tanzania and Zambia.

- It is extremely long, deepest and is the **longest lake in the world,** measuring over 400 miles long.

- It occupies the southern end of the **Western Rift Valley**, and for most of its length the land rises steeply from its shores.

- It is situated on the line dividing the **floral regions of eastern and western Africa**, and oil palms, which are characteristic of the flora of western Africa, grow along the lake's shores.

- The largest rivers discharging into the lake are the **Malagarasi, the Ruzizi**, and the **Kalambo.**

- Its outlet is the **Lukuga River,** which flows into the **Lualaba River.**

- **Rice** and subsistence crops are grown **along the shores,** and fishing is of some significance.

Recent Initiative to Protect Biodiversity of Lake Tanganyika

- It is the **UN Environment Programme (UNEP)-**led initiative and funded by the **Global Environment Facility** (GEF).

- It aims to enhance transboundary cooperation among the four countries bordering Lake Tanganyika.
- It will also promote sustainable fisheries, biodiversity conservation, and the restoration of degraded landscapes in the basin.
- The initiative will protect core conservation zones in three identified protected areas and promote sustainable natural resource use in protected areas and their buffer zones.

MOUNT EREBUS

- It is the **world's southernmost active volcano.**
- It is located on the western half of **Ross Island, off the coast of Antarctica** in the **Ross Sea.**
- It is a glaciated intraplate stratovolcano, part of the Ring of Fire that encircles the Pacific Ocean basin.
- It was discovered in 1841 by the British explorer Sir James Clark Ross, who named it after his ship, the Erebus.
- Its summit is 12,448 feet (3,794 meters) above sea level, making it the **second tallest volcano in Antarctica, after Mount Sidley.**
- It is also **one of only a few volcanoes** in the world that contain an **active lava lake.**

- o The **lava** within the lava lake is **alkalic** in composition. **Alkalic lava is common in rift volcanoes.**
- It has been **continuously active since 1972.** **Most eruptions are small and Strombolian** in character, tossing bombs onto the crater rim.
- The **largest Antarctic settlement—McMurdo Station, operated by** the **United States**—stands **within sight of the volcano** (about 40 kilometres or 25 miles away).

MAJULI ISLAND

- Often called the **soul of Assam**, Majuli is the **world's largest river island.**
- It lies at the heart of **Assam,** spreading over an area of 421 sq. km.
- The island is **formed by the Brahmaputra River** in the south and the **Kherkutia Xuti, an anabranch of the Brahmaputra, joined by the Subansiri River in the north.**
- In 2016 it became the **first island to be made a district in India.**
- The island's landscape is characterised by lush greenery, water bodies, and paddy fields.
- The island has also been the **hub of Assamese neo-Vaishnavite**

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culture, initiated around the 16th century by the **great Assamese saint-reformer Srimanta Sankerdeva** and **his disciple Madhavdeva.**

  o They initiated the **tradition of Satras** (monastic institutions), and these Satras have preserved **Sattriya dance,** literature, **bhaona (theatre),** dance forms, mask making, and boat-making.

- **Most of the islanders** belong to **three tribes-Mishing, Deori, and Sonowal Kachari,** with the non-tribal Assamese comprising the rest.

- Apart from Satras or Vaishnavite monasteries, Majuli is **famous for mask-making** and has a tradition of **pottery making.**

- **Rice cultivation** is the **primary livelihood** for the residents of Majuli, with several **unique varieties** of rice, such as **Komal Saul and Bao Dhan,** grown in the region.

TUNISIA

- Tunisia, officially the Republic of Tunisia, is the **northernmost country in Africa**.

- Tunisia is home to **Africa's northernmost point, Cape Angela**.

- Its capital and largest city is **Tunis**, located on its north-eastern coast, which lends the country its name.

- Tunisia was inhabited by the indigenous **Berbers**.

- Tunisia is well integrated into the international community. It is a member of the **United Nations, La Francophonie, the Arab League, the OIC, the African Union, the Non-Aligned Movement, the International Criminal Court, and the Group of 77**, among others.

- It also has an **association agreement with the European Union**, and has also attained the status of a **major non-NATO ally** of the United States.

- It is where the Arab Spring began with the **Jasmine Revolution**.

HEMKUND SAHIB

- **Hemkund Sahib** is a revered Sikh Gurudwara located in the Chamoli district of **Uttarakhand**.

- It is believed that **Guru Gobind Singh Ji**, the **10th Sikh Guru**, meditated here in his previous life.

- The Gurudwara is surrounded by seven snow-capped peaks and a glacial lake (Hemkund Lake).

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FALKLAND ISLANDS

- Falkland Islands, also known as the Malvinas Islands, is an **internally self-governing overseas territory of the United Kingdom**.
- It is an archipelago located in the **South Atlantic Ocean**, some 500 km from mainland South America.
- It comprises of two large islands (East Falkland and West Falkland) and several hundred smaller ones.
- The two large islands are separated by **Falkland Sound (strait).**
- The islands are positioned both in the southern and western hemispheres of the Earth.
- **Climate:** A cool temperate oceanic climate that is characterized by its lack of extremes.
- **Capital:** Located on the island of East Falkland, is **Stanley (also, Port Stanley)** is the capital of the Falkland Islands.
- **Demographics:** The population of the Falkland Islands is English-speaking and consists primarily of Falklanders of African-Irish descent (88% of population).
- **Economy:** Almost the whole area of the two main islands, outside of Stanley, is devoted to **sheep farming**.
- **Currency:** The official currency is the **Falkland pound**, which is on par with the British pound.

Government:

- Executive authority is vested in the British crown, and the islands' government is headed by a governor appointed by the crown.

- The islands are **self-governing**, although **foreign affairs and defence matters** are handled by the British government.

VANUATU
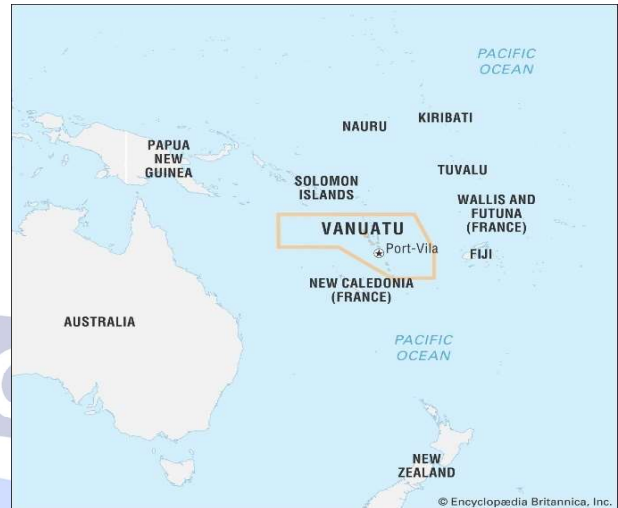
- A large earthquake struck Vanuatu, causing major damage & casualties.
- Vanuatu is an **island nation in the South Pacific Ocean**, comprising 83 small islands, of which 65 are inhabited. It is part of the Melanesian region, lying east of **Australia**, north of **New Zealand,** south of **Solomon Islands** and west of **Fiji**.
- Its geography includes volcanic landforms, rugged terrain, rain-forests, and marine ecosystems.
- **Port Vila, located on Efate Island**, serves as the capital city and economic hub of Vanuatu.
- In the 1880s, France and the UK claimed parts of the archipelago. In 1906, they agreed to jointly manage the archipelago as "**New Hebrides" via an Anglo-French agreement.**
- An independence movement arose in the 1970s, and the **Republic of Vanuatu was founded in 1980.**
- It is a parliamentary democracy with a president as the head of state and a prime minister as the head of govt.
- Vanuatu's **economy is mostly agrarian**, with fishing, and small-scale agriculture as

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its backbone. **Tourism** is also a major contributor, driven by the nation's pristine beaches, coral reefs, and cultural heritage. **Offshore financial services** also play a key role in the economy.

BANGUS VALLEY
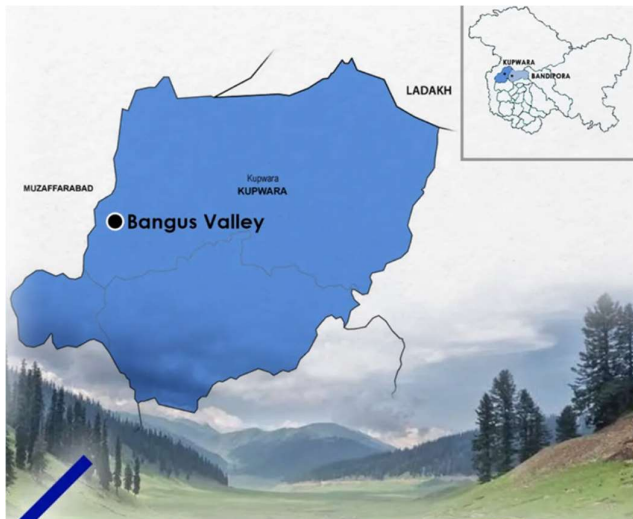
- Bangus Valley is located **near the Line of Control (LoC)** in north **Kashmir's Kupwara district**.
- It consists of **two bowl-shaped valleys**, known as **Bodh Bangus** (Big Bangus) and **Lokut Bangus** (Small Bangus).
- It is surrounded by Rajwar and Mawar Mountains in the east, Shamasbury and Dajlungun in the west, and Chowkibal and Karnah Guli in the north.
- The landscape includes grasslands at lower altitudes and dense coniferous forests (Taiga biome).
- It offers lush green meadows, low-lying mountains covered with dense forests, and a serene environment.
- The Jammu and Kashmir government aims to **promote Bangus valley as an ecotourism destination**.

MADHAV NATIONAL PARK

About Madhav National Park

- **Location:** The Madhav National Park is situated in the **Shivpuri district** of Madhya Pradesh and, on the northern fringe of the **Central Highlands of India** forming a part of the Upper Vindhyan Hills intermixed with plateaus and valley sections.

- **History:** The Park was the hunting ground of Mughal emperors and Maharaja of Gwalior. It got the status of a **National Park in 1958**. The park was established as Madhya Bharat National Park in 1955 and received its present name in 1959.

- **Area:** Originally, the park had an area of 64 square miles (165 square km), but a later extension to the east increased the protected area to 137 square miles (355 square km).

- **Vegetation:** The forests of the park fall within the category of Northern tropical dry deciduous mixed forests as well as Dry Thorn Forests typical of North – Western Madhya Pradesh.

- **Fauna:** It is home to antelopes like Nilgai, Chinkara and Chowsinga and Deer including Chital, Sambar and Barking Deer. Animals like the Leopard, Wolf, Jackal, Fox, Wild Dog, Wild Pig, Porcupine, Python etc are also sighted in the park.

- **Aquatic Life:** The Park is unique in having both lake, meadow and forest ecosystems.

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Sakhya Sagar and Madhav Sagar are the two lakes in the southern part of the park, providing the aquatic biodiversity and lifeline for the terrestrial species.

- **Recent developments:** With the recent declaration it has become the **58th tiger reserve** of India and the 9th tiger reserve of Madhya Pradesh, with home to five tigers including two cubs born recently.

KURSK REGION

- Kursk is a city and the administrative centre of **Kursk Oblast**, positioned along Russia's southwestern border.

- It lies in the heart of the **European part of Russia**, approximately 450 km (280 miles) south of Moscow, along the upper Seym River.

- The region is part of the Black Earth territory, known for its highly fertile soil. Kursk experiences a moderately continental climate, characterized by distinct seasonal variations.

- **History:**

  o One of Russia's oldest cities, Kursk was first mentioned in historical documents in 1032, highlighting its long-standing role in the region's development.

  o The city was completely **destroyed by the Tatars** in 1240 and remained in ruins until 1586, when

it was rebuilt as a military outpost to defend Russian settlers.

  o **World War II & Battle of Kursk:** The city witnessed intense fighting during World War II, particularly in the **Battle of Kursk (July–August 1943)**, the largest tank battle of the war, which resulted in a German defeat.

  o **Modern Economy & Industries:** Kursk has a diverse industrial base, including machine building, food processing, and the production of electronic equipment and synthetic fibres, contributing to the region's economic growth.

- **Recent Developments:**

  o It was captured by Ukrainian troops in the summer of 2024 in an unexpected lightning attack.

  o Ukraine's presence in Russia's Kursk region has deteriorated sharply, with the Russian advance threatening Kyiv's sole territorial bargaining counter at a crucial time in the war.

DEHING PATKAI NATIONAL PARK

- It is located in the Dibrugarh and Tinsukia districts of **Assam**.

- It lies in the Dehing Patkai Landscape, which is a **dipterocarp-dominated lowland rainforest**.

- It is situated at the **foothills of Patkai Hill Ranges**, on the banks of the River Dehing (Tributary of Brahmaputra), and **adjacent to the Namdapha Wildlife Sanctuary**.

- It is often referred to as the **'Amazon of the East'** owing to its expanse and the thick forest.

- The climate is mostly tropical with an annual rainfall of more than 4,000 mm.

- There are **more than a dozen different ethnic groups living in the area** including

the indigenous Assamese communities, particularly **Tai Phake, Khamyang, Khampti, Singpho, Nocte, Ahom, Kaibarta, Moran and Motok, Burmese, and non-indigenous Nepali** people.

- **Vegetation:** The park is a **deciduous rainforest** with **semi-evergreen** and lush green flora.
- **Flora:** It is dominated by species like Hollong, Nahor, Mekai, Paroli, Simul, various orchids, ferns, cane, and bamboo.
- Fauna: The rich biodiversity includes diverse species such as **slow loris**, pig-tailed macaque, stump-tailed macaque, capped langur, **Indian leopard, Asian elephant, royal Bengal tiger, gaur, Himalayan black bear, clouded leopard**, barking deer, **Chinese pangolin**, etc.

MAURITIUS

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About Mauritius

- It is an **island country** in the **Indian Ocean**, located **off the eastern coast of Africa.**
- It occupies a total area of 2,040 sq. km.
- **Mauritius Capital: Port Louis**
- **One of the smallest countries** in the world, this island nation can be found just **east of Madagascar** in the middle of the Indian Ocean.
- It is made up of the **main island of Mauritius and several outlying islands,** like Ambre Island, Est Island, Cerfs Island, Benitiers Island, etc.
    - o The **island of Mauritius is a volcanic island** formed by volcanic activity around 8 million years ago.
- The **highest peak** in Mauritius, the 828 m tall **Mount Piton,** is located in the southwest of the plateau.
- The chief water source is **Lake Vacoas.**
- **Mauritius Climate**: The climate is **maritime subtropical**, with fairly uniform temperatures throughout the year.

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- **Mauritius Languages**: Mauritius **national language is English, but the majority** of the population **speak Creole or French.**

- **Independence**: Mauritius **gained independence from the UK in 1968** as a Parliamentary Republic and has remained a stable democracy.

- **Mauritius Government**: Mauritius is a **republic with one legislative house**; the head of state is the president, and the head of government is the prime minister.

- It is a **member o**f the **Common Market for Eastern and Southern Africa (COMESA)** and the **Southern African Development Community (SADC**).

- **Both the Indian Ocean Rim Association** and the **Indian Ocean Commission have their headquarters in Mauritius.**

Population

- Approximately **two-thirds** of the population is of **Indo-Pakistani origin**, most of whom are descendants of indentured labourers brought to work in the sugar industry during the 19th and early 20th centuries.

- About **one-fourth of the population is Creole (of mixed French and African descent**), and there are small numbers of people of Chinese and Franco-Mauritian descent.

NORTH SEA

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About North Sea

- North Sea is a **shallow, northeastern arm of the Atlantic Ocean,** located between the British Isles and the mainland of northwestern Europe.

- The sea is bordered by the **island of Great Britain to the southwest and west**, **the Orkney and Shetland islands to the northwest, Norway to the northeast, Denmark to the east, Germany and the Netherlands to the southeast,** and **Belgium and France to the south.**

- It is connected to the Atlantic by the **Strait of Dover** and the **English Channel** and opens directly onto the ocean between the Orkney and Shetland islands and between the Shetland Islands and Norway.

- The **Skagerrak**, an eastward extension of the North Sea between Norway and Denmark, connects the North and Baltic seas via the **Kattegat and the Danish straits.**

- The North Sea waters are affected by the **warm North Atlantic Current**, which moves northward along the western side of the British Isles and enters the Norwegian Sea.

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- The North Sea has long been important as **one of Europe's most productive fisheries**.

- It also serves as **a prominent shipping zone** among European countries and between Europe and the Middle East.

- The **extensive reserves of petroleum and natural gas have been discovered beneath the seafloor.**

CHAGOS ARCHIPELAGO
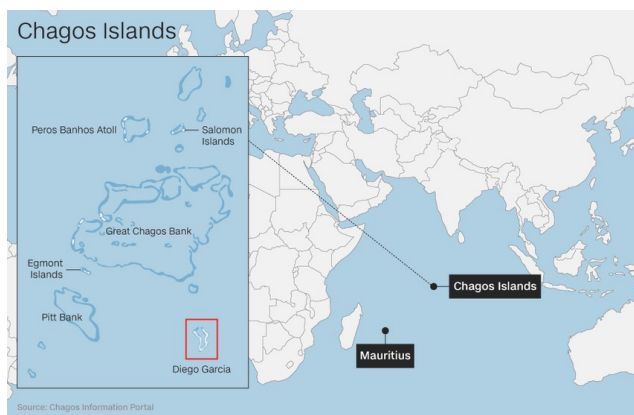
- It is an island group located in the **central Indian Ocean** and is about 1,000 miles (1,600 km) south of the southern tip of the Indian subcontinent.

- It is an **overseas territory of the United Kingdom** that was established on November 8, 1965.

- Its key islands include the **Diego Garcia** atoll, **Danger Island**, **Egmont Islands**, **Eagle Islands**, Nelsons Island, Peros Banhos atoll. (Diego Garcia island houses a strategic **US military base**).

- **Climate:** It experiences a tropical marine climate with high temperatures and elevated humidity levels. The climate is heavily moderated by the trade winds which blow over the islands.

Chagos island dispute

- The Chagos dispute centres around the archipelago in the Indian Ocean, which **Britain claimed along with Mauritius** in 1814.

- In **1966**, Britain **leased Diego Garcia**, the largest of the Chagos Islands, to the **United States**, which was seeking a military base in the region.

- The Chagossians, who are mostly descendants of African slaves brought to the islands in the 18th century, have since been engaged in a prolonged legal battle for the right to return to their homeland.

- Mauritius, which gained independence from Britain in 1968, has consistently maintained its claim over the Chagos Islands.

- In 2019, the **International Court of Justice (ICJ)** dismissed the UK's right to govern the Chagos Islands and called on its government to withdraw from the archipelago.

Recent developments:

- The UK and Mauritius have reached a historic agreement to return sovereignty of the Chagos islands to Mauritius while securing the base at Diego Garcia.

- Mauritius will assume sovereignty over the archipelago with UK authorized to exercise the sovereign rights of Mauritius on Diego Garcia.

CRIMEAN PENINSULA

- **Location:** Located in Eastern Europe, Crimea is almost entirely surrounded by the **Black Sea** and the **Sea of Azov**.

- It connects to mainland Ukraine via the **Isthmus of Perekop** and to Russia via the Crimean Bridge over the **Kerch Strait**.
  - The **Kerch Strait** connects the Sea of Azov to the Black Sea.
- **Borders:** Shares maritime proximity with Romania to the west and Turkey to the south across the Black Sea.
- **Historical Significance:** Known as the **Tauric Peninsula** in early modern history, it has been under Russian occupation since 2014 after annexation.

Geological Features:

- **Mountains:** The Crimean Mountains dominate the southern region, with Ai-Petri being a notable peak.
- **Rivers:** Includes small rivers like Salhir and Alma.
- **Coastal Features:** The Arabat Spit separates the Syvash lagoons from the Sea of Azov.

TIGRAY

- Tigray is the *northernmost regional state in Ethiopi*a (Africa's second-most populous country).
- Tigray region is known for its **mountainous terrains** that have often helped the people protect their territory from invaders, such as the Greeks, the Turkish, and the Italians.
- It is the **homeland of the Tigrayan, Irob and Kunama peoples.**

- It is also known as Region 1 according to the federal constitution.
- **Capital and largest city:** Mekelle.
- **Border Areas**: Eritrea (North), Sudan (West), the Amhara Region (South), and the Afar Region (East and South East).
- The Tigray war was an armed conflict that lasted from 3 November 2020 to 3 November 2022. It was a civil war that was primarily fought in the Tigray Region of Ethiopia between forces allied to the Ethiopian federal government and Eritrea on one side, and the Tigray People's Liberation Front (TPLF) on the other.

NAGORNO-KARABAKH

- Nagorno-Karabakh, referred to as Artsakh by Armenians, is a **landlocked, mountainous region in the South Caucasus**.
- The general region includes the northeastern flank of the Karabakh Range of the Lesser Caucasus and extends from the crest line of the range to the margin of the Kura River lowland at its foot.
- Nagorno-Karabakh's environments vary from **steppe on the Kura lowland through dense forest of oak, hornbeam, and beech** on the lower mountain slopes to birchwood and alpine meadows higher up.
- Following the Russian Empire's collapse in 1917, both **Armenia and Azerbaijan asserted claims over this area**, leading to enduring tensions.
- Internationally recognized as part of Azerbaijan, until recently much of it was

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governed by the unrecognized Nagorno-Karabakh Republic, also known as the Republic of Artsakh.

- Historically, the region's population was predominantly ethnic Armenian, and it operated a self-established government closely aligned with Armenia, though lacking official recognition from Armenia or other United Nations member states.

PHILIPPINES

- Philippines is an **archipelagic nation in South East Asia**, bordered by Philippine Sea to the east, South China Sea to the west & Celebes Sea to the south.
- It consists of **7,641 islands,** with Luzon and Mindanao the largest.
- Capital: Manila (on Luzon Island).
- **Mount Apo** (2,954 m) is the highest peak, and it is an active volcano.
- Philippines is **part of the Pacific Ring of Fire,** which makes it geologically active. It has >20 active volcanoes, including Mayon (recently erupted in 2023), Taal, and Mount Pinatubo.
- In the **1540s, Spanish explorers conquered the archipelago** and named them Las Islas Filipinas in honor of King Philip II of Spain.

- After the Spanish–American War, in 1898, **Spain ceded the territory to the USA**. The USA controlled Philippines until **Japan invaded and conquered the islands during World War II.**
- After the USA retook the Philippines from the Japanese, the **Philippines became independent in 1946.**
- With a population of over 110 million, it is the world's **twelfth-most-populous country.**
- It is an **emerging market and a developing and newly industrialized country.** Its economy is transitioning from being agricultural to service- and manufacturing-centered.

BALOCHISTAN

- India strongly rejected Pakistan's allegations linking it to the Jaffar Express train hijacking in Balochistan, calling them baseless.
- Balochistan is situated in **Western Pakistan** and is its **largest and most sparsely populated province.**
- It borders **Iran** (west), **Afghanistan** (northwest) and the **Arabian Sea**.
- It was a **part of many ancient Greek and Indian empires**, from the time of

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Alexander the Great. The **Balochi people** (an ethnic group) arrived in the 14th century CE, integrating with existing populations.

- It became **part of British India after the third Anglo-Afghan war** led to the creation of the **Durand Line**. It became part of Pakistan in 1947. Balochistan was formally declared a separate province in 1970.

Geographical Features:

- **Sulaiman Mountain Range:** Forms its eastern boundary along Afghanistan.
- **Makran, Kharan, Chagai Mountain Ranges:** Forms its western boundary along Iran.
- **Chagai & Kharan Deserts:** Arid, barren regions in the north-west.
- **Makran Coastal Belt:** Extends along the Arabian Sea and is known for the Gwadar Port.
- **Bolan Pass:** A historical route between Balochistan & Afghanistan.

NORTH MACEDONIA

- North Macedonia is a **landlocked nation in Southeast Europe**, in the **Balkan region.**
- It shares land borders with **Greece** to the south, **Albania** to the west, **Bulgaria** to the east, **Kosovo** to the northwest and **Serbia** to the north.
- **Skopje**, the capital and largest city, is home to a quarter of the country's population of 1.83 million.
- North Macedonia is a **parliamentary republic**, with a president as head of state and a **prime minister as head of govt**. The president has a largely ceremonial role and real power lies with the PM.
- North Macedonia is a **member of NATO, the Council of Europe, the World Bank and the WTO.** Since 2005, it has also been a **candidate for joining the European Union.**
- North Macedonia is an **upper-middle-income country** according to the World Bank's definitions and has undergone considerable **economic reform since the 1990s.**
- Its economy is heavily dependent on **trade with EU & Turkey**. Remittances from Macedonians abroad play a significant role in economic stability

NAMIBIA

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- Netumbo Ndaitwah has become Namibia's 1st female president and Africa's second-ever directly elected female head of state (after Liberia).
- It is a country on the **west coast of Southern Africa.** Its borders the **Atlantic Ocean** to the west, **Angola** and **Zambia** to the north, **Botswana** to the east & **South Africa** to the south.
- Namibia's capital and largest city is **Windhoek.**
- **In 1884, Germany conquered** most of the territory and made it into a colony. **German rule ended during the First World War** in 1915. In 1920, the League of Nations mandated administration of the colony to South Africa. Namibia **gained independence from South Africa on 21 March 1990**.
- Namibia is a **stable parliamentary democracy**. **Agriculture, tourism, and the mining industry** (diamonds, uranium, gold, silver & metals) form the basis of its economy.
- Despite significant GDP growth since the 1990s, **40.9% of the population faces multidimensional poverty.**
- Namibia is **the driest country in sub-Saharan Africa** and with a population of 3.1 million people, it **is one of the most sparsely populated countries in the world.**

SENKAKU ISLANDS

- The Senkaku Islands are an **uninhabited group of eight islands situated in the East China Sea**, with a total area of approximately 7 sq km.
- It lies 120 nautical miles west from Okinawa Island (Japan) & 90 nautical miles northeast off Taiwan.
- They are the focus of a territorial **dispute between Japan and China and between Japan and Taiwan**.
- They are also known as the Diaoyu Islands in China and as the Diaoyutai Islands in Taiwan.
- They were never formally administered by any country before **Japan incorporated them into its territory in 1895.** Japan continues to administer the islands.
- **China claims that these islands have been part of its territory since ancient times**, serving as important fishing grounds administered by various royal dynasties of China.
- The islands are close to strategically important **shipping lanes**, offer rich **fishing grounds** and are thought to contain **offshore oil deposits.**

KYUSHU ISLAND

- It is the **southernmost and 3rd largest of** the **four main islands of Japan**. The island has a land area of 35,640 sq.km.

- It is **bordered by** the **East China Sea to the west** and the **Pacific Ocean to the east.**

- The **Eastern Channel**, or **Tsushima Strait, separates Kyushu from the Korean Peninsula** in the northwest.

- A series of volcanic ranges, including the **world's largest active volcanic crater, Mount Aso**, are located in Kyushu.

- **Highest Peak: Mount Kuju** (1,794 m)

- Major parts of Kyushu have a **subtropical climate and heavy rainfall,** which supports its subtropical vegetation.

- The **chief cities** are the northern industrial complex of **Kita-Kyūshū,** the commercial centre of **Fukuoka**, and **Nagasaki**.

- The main crops raised on the island include **rice, tea, tobacco,** sweet potatoes, and citrus fruit.

- Industries, concentrated in northern Kyushu, include **iron and steel and chemicals.**

BHADRA TIGER RESERVE
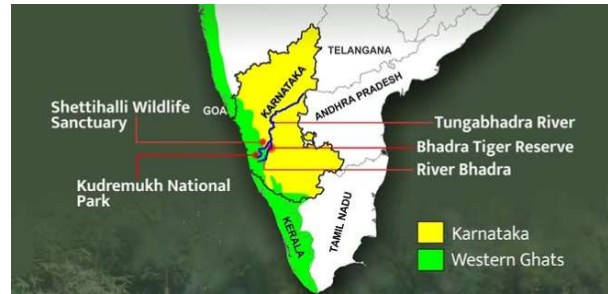
- Karnataka has proposed a "soft-release" strategy to manage the escalating human-elephant conflict in Hassan, Chikkamagaluru, and Kodagu districts by **gradually rehabilitating captured elephants into the Bhadra Tiger Reserve**.

- It is located in the midst of the **Western Ghats region of Karnataka**, in the **Baba Budan hill ranges**.

- It hosts diverse forests, including Southern Moist Mixed **Deciduous Forests**, Dry Deciduous Forests, and **Shola Forests.**

- **Flora:** Teak, Rosewood, Mahogany and many medicinal plants

- **Fauna:** Tiger, Leopard, Leopard cat, Dholes, Indian Civet, Gaur, Sambar and Barking Deer

- It is **named after the Bhadra River**, which originates in within the tiger reserve. The **Bhadra meets the Tunga** River at Koodli, a small town near Shivamogga. The combined river **continues east as the Tungabhadra, a major tributary of the Krishna**

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LITHUANIA

- Lithuania is a country in **Eastern Europe**. It is one of three **Baltic states** and lies on the **eastern shore of the Baltic Sea.**
- It is bordered by **Latvia** to the north, **Belarus** to the east, **Poland** to the south, and the **Russian exclave of Kaliningrad** to the southwest.
- It covers an area of 65,300 km², with a population of 2.89 million. Its capital and largest city is **Vilnius.**
- Since medieval times, Lithuania was part of the **Russian Empire**. After World War I, Lithuania declared **independence in 1918**, founding the modern Republic of Lithuania. During World War II, Lithuania was **occupied by Nazi Germany**, before being **reoccupied by the USSR in 1944.**
- In 1990, a year before the dissolution of the USSR, **Lithuania became the first Soviet republic to break away** when it proclaimed its independence.
- Lithuania is **now a developed country with a high income and an advanced economy**. Lithuania is a member of the EU, the Council of Europe, the Schengen Agreement, NATO, & OECD.

ENSO CYCLE

Context: The ENSO cycle yet to be understood fully by scientists, especially due to climate change.
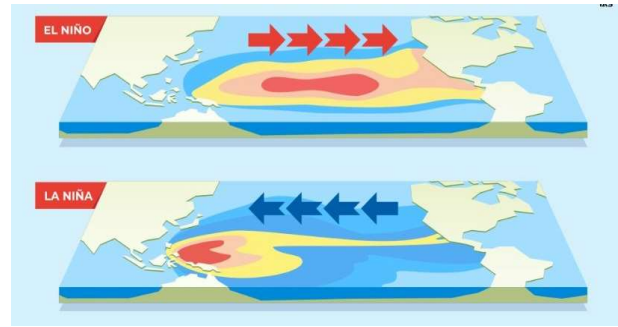
About the ENSO Cycle

- **El Nino and La Nina** are complex weather patterns resulting from variations in ocean temperatures in the Equatorial Pacific Region.
- They are opposite phases of what is known as the **El Nino-Southern Oscillation (ENSO)** cycle.
- It describes the fluctuations in temperature between the ocean and atmosphere in the east-central Equatorial Pacific.
- Normally, **strong trade winds blow westward** across the tropical Pacific, the region of the Pacific Ocean located between the **Tropic of Cancer and the Tropic of Capricorn.**

About El Nino

- El Nino is a climate pattern that describes the **unusual warming of surface waters in the eastern tropical Pacific Ocean.**
- It is the **"warm phase"** of a larger phenomenon called the El Nino-Southern Oscillation (ENSO).
- During El Nino, surface temperatures in the equatorial Pacific rise which weakens the trade winds — east-west winds that blow near the Equator.
- Due to El Nino, warm western pacific mound created in normal years start receding back because of which warm water gets accumulated near eastern pacific ocean due to el nino current.
- It thus brings warm water from the western Pacific towards eastern Pacific region (Americas).

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- El Niño causes dry, warm winter in Northern U.S. and Canada and increases the risk of flooding in the U.S. gulf coast and south-eastern U.S.
- It also brings **drought to India, Indonesia and Australia** due to the upwelling of cooler water in the western Pacific and Indian Ocean that reduces the formation of rainy clouds.

About La Nina

- **La Nina, the "cool phase"** of ENSO, is a pattern that describes the **unusual cooling** of the tropical eastern Pacific.
- La Niña is caused by a build-up of **cooler-than-normal waters** in the tropical Pacific, the area of the Pacific Ocean between the Tropic of Cancer and the Tropic of Capricorn.
- Unusually strong, eastward-moving trade winds and ocean currents bring this cold water to the surface, a process known as upwelling. Upwelling can cause a drastic drop in sea-surface temperature in the Eastern Pacific Ocean.
- Impacts:
    o Drier conditions in Southern US
    o Heavy floods in Australia.
    o **Strengthens Indian monsoon.**

SUDAN

- It is a country located in **northeastern Africa.**
- Bordering Countries: **South Sudan, Ethiopia, Eritrea, Egypt, Libya, Chad,** & **Central African Republic**.
- It **borders** the **Sahara** on the north and **extends southward to** the **forests of West Africa** and the **Congo River basin.**
- Sudan also has a significant **coastline along the Red Sea**.
    o This narrow strip of water **gives vital access to the Indian Ocean** as well as the **Mediterranean Sea through** the **Suez Canal.**
- **Capital**: Sudan's capital, **Khartoum**, is located roughly in the centre of the country, at the **junction of the Blue Nile and White Nile rivers**.
- For more than a century, **Sudan**—first as a colonial holding, then as an independent country—**included its neighbour South Sudan**, home to many sub-Saharan African ethnic groups.
- **Prior to** the **secession of the south in 2011, Sudan was the largest African country**, with an area that represented more than 8 percent of the African continent and almost 2 percent of the world's total land area.
- Much of Sudan consists of **deserts and arid grasslands** with little in the way of vegetation. **Massive plains and plateaus cover most of the nation**.

Current Crisis:

- A **power struggle between the Sudanese army and** the **paramilitary Rapid Support Forces** broke out in April 2023 ahead of a planned transition to civilian rule, killing thousands and **triggering the world's largest displacement crisis**.

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- **One-third of the population** is **facing acute food insecurity,** with numbers projected to increase to 40 percent of the population.

MOUNT LEWOTOBI LAKI-LAKI

- It is located on **Flores Island.**

- It is a **volcanic mountain** situated in East Nusa Tenggara province of **Indonesia.**

    o The volcano is part of a **twin-volcano system** that the local residents perceive as male and female mountains.

    o It is **classified as a strato-volcano** - the most commonly occurring volcanoes around the world and are formed by the layers of lava that repeatedly ooze out of the crater.

- It is not uncommon for Indonesia to witness such volcanic eruptions as it is situated along the famous '**Ring of Fire' in the Pacific region**- an encirclement dotted by active volcanoes that sit on top of vigorous tectonic plates that often collide and lead to seismic activity causing earthquakes and tsunamis.

Stratovolcanoes

- It is a tall, **steep, and cone-shaped type** of volcano.

- Unlike flat shield volcanoes, they have higher peaks.

- They are typically **found above subduction zones**, and they are often part of large volcanically active regions, such as the **Ring of Fire that frames much of the Pacific Ocean.**

- Stratovolcanoes **comprise the largest percentage** (~60%) of the Earth's individual volcanoes, and most are characterized by eruptions of andesite and

dacite, lavas that are cooler and more viscous than basalt.

BLACK SEA

- **Location**: A large inland sea situated at the southeastern extremity of Europe.

- **Bordering countries**:

    o **Russia** and **Ukraine** (North).

    o **Turkey** (South).

    o **Bulgaria** (West).

    o **Georgia** (East).

    o **Romania** also has access to the Black Sea.

Key features:

- The **Crimean Peninsula** extends into the Black Sea from the north.

- **Russia has the longest coastline** (2,300 km), followed by **Turkey (1,329 km)** and **Ukraine (1,282 km)**.

- It connects to the **Aegean Sea** (Mediterranean) via the **Bosporus Strait, the Sea of Marmara, and the Dardanelles Strait**.

- The **Kerch Strait** links it to the **Sea of Azov**.

- The **Black Sea has lower salinity** than the world's oceans due to isolation from the Mediterranean.

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- Major rivers flowing into it include the **Danube, Dnieper, Southern Bug, Rioni,** and **Dniester**.

HEAT WAVES IN INDIA

Context: The India Meteorological Dept. has forecast 10–12 heat wave days in north India this summer, double the usual average of 5–6 days.

About Heat Waves:

- Heatwaves naturally occur over India **between March and June.**
- Indian Meteorological Dept. (IMD) under the Ministry of Earth Sciences declares a heatwave event when the **maximum (day) temperature for a location in the plains crosses 40° Celsius (C). Over the hills, the threshold temperature is 30° C.**
- A heatwave generally lasts for a **minimum of 5 days.** On occasion, it **can extend up to 7-10 days**

Following criteria are used to declare heatwave:

- Below criteria should be met at least in 2 weather stations for at least two consecutive days:
  - Based on **Departure from Normal**
    - Heat Wave: Departure from normal is 4.5°C to 6.4°C
    - Severe Heat Wave: Departure from normal is >6.4°C
  - Based on **Actual Maximum Temperature (for plains only)**
    - Heat Wave: Actual max. temperature is ≥ 45°C
    - Severe Heat Wave: Actual max. temperature is ≥ 47°C.

India's Vulnerability to Heat Waves

- **Only 8% of Indian households own AC units**, according to an analysis of the India Cooling Action Plan (ICAP).
- By 2030, India may account for **34 out of 80 million global job losses** from heat associated productivity decline.
- As per a World Bank Report, lost labour from rising heat and humidity could **reduce up to 4.5% of GDP.**
- According to IMD - **24% increase in heat waves during 2010-19 when compared to 2000-09.**
- From **2000 to 2019, mortality rate** for tropical cyclones decreased by 94% & it **increased by 62% for heat waves.**
- Heat waves are **not notified as a natural disaster at national level.**

IMD Colour Codes for Heat Index

- It is represented with **different colour codes to signify varying levels of heat impact and discomfort:**
  - Green: Below 35°C
  - Yellow: Range of 36-45°C
  - Orange: Range of 46-55°C
  - Red: Above 55°C
- The index is based on four factors: **Relative humidity, Wind speed, Max temperature, Cloud cover.**
- It warns against heat waves and lists the precautions people must take.

SOUTH CHINA SEA

- The South China Sea is an arm **of western Pacific Ocean** in Southeast Asia.
- It is **south of China**, east & south of Vietnam, west of the Philippines and north of the island of Borneo.
- **Bordering states**: China, Taiwan, the Philippines, Malaysia, Brunei, Indonesia, Singapore and Vietnam.
- It is **connected by Taiwan Strait** with the **East China Sea** and by **Luzon Strait** with the **Philippine Sea**.
- It contains numerous shoals, reefs, atolls and islands. The **Paracel Islands**, the **Spratly Islands** and the **Scarborough Shoal** are the most important.

Importance:
- It holds major strategic importance for its location as it is the connecting link between the Indian Ocean and the Pacific Ocean, through Strait of Malacca.
- **One-third of the global shipping** passes through it, carrying an estimated USD 3.4 trillion in commerce each year, including energy supplies to U.S., Japan and South Korea.
- It has **one-third of the entire world's marine biodiversity** and contains lucrative fisheries providing food security to the Southeast Asian nations.

- The SCS is believed to have huge **oil and gas reserves beneath its seabed.**

KASAMPATTY SACRED GROVE

- Kasampatty Sacred Grove has been notified as **Tamil Nadu's second Biodiversity Heritage Site (BHS).**
- BHSs are areas possessing rich biodiversity, endemism, and cultural importance, often conserved by local communities.
- Under **Section 37 of the Biological Diversity Act, 2002, State Govts in consultation with local bodies** may notify areas of biodiversity importance as BHS.
- The State Govt in consultation with the Union Govt may frame rules for management & conservation of BHS.
- The **National Biodiversity Authority (NBA) advises the State Government** in the selection and management of heritage sites under section 37.

Criteria for declaration of BHS:
- Rich species diversity
- High endemism or rare species
- Cultural or sacred significance
- Ecological corridors or habitats for threatened species

Procedure for declaration of BHS:
- Suggestions invited by State Biodiversity Boards (SBBs) through Panchayats or local-level Biodiversity Management Committees (BMCs)

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- Ecological and cultural studies in consultation with local communities
- Govt. Gazette notification issued by the State after public consultation
- Management plan implemented by local bodies and monitored by SBBs.

THAILAND

- Thailand is located in the middle of **southeast Asia.**

- A unified Thai kingdom was established in the **mid-14th century**. Known originally as **Siam,** the country was renamed Thailand (Land of the Free) in 1939.

- Thailand's population is currently 70 million, its capital **city is Bangkok**, its currency is **the baht (THB), and the official language is Thai.**

- It is bordered by Myanmar to the north and northwest, Lao PDR and Cambodia to the east, Malaysia and the **Gulf of Thailand to the south**, and the Andaman Sea to the southwest.

- Thailand is the world's 50th largest country, with a total area of **513,120 sq km**.

- The majority of Thailand's population is ethnically Thai, accounting for around 95% of the total population.

- **Buddhism is the predominant religion in Thailand**, with around 95% of the population adhering to Theravada Buddhism.

- The highest peak in Thailand is **Doi Inthanon**.

- Thailand's climate is influenced by seasonal monsoon winds (the southwest and northeast monsoons).

- Most of Thailand has a **"tropical wet and dry or savanna climate"** type (Köppen's Tropical savanna climate).

- The majority of the south as well as the extreme east have a **tropical monsoon climate**.

- A leading exporter of rubber, Thailand also exports crops such as rice, vegetables and fruits.

MYANMAR

- Myanmar is located in Southeast Asia, **bordering Bangladesh, India, China, Laos, and Thailand.**

- The country was historically known as **Burma** and was officially renamed Myanmar in 1989.

- Myanmar's population is approximately 55 million, with its capital city being **Naypyidaw**

- The country's largest city is **Yangon** (Rangoon), and its official language is **Burmese.**

- Ethnic Burmese (Bamar) make up the majority of the population, with many other ethnic groups present across the country, including the Shan, Karen, Rakhine, and Mon peoples.

- **Buddhism** is the predominant religion, with over 80% of the population adhering to Theravada Buddhism.

- The highest peak in Myanmar is **Hkakabo Razi**, which is located in the northern part of the country.

- Myanmar has a tropical monsoon climate, characterized by three seasons: the rainy

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season (monsoon), cool season, and hot season.

- The country's agricultural exports include rice, pulses, beans, and seafood. Myanmar is also known for its production of teak wood and jade.
- Myanmar is dealing with an ongoing civil war after the military coup on February 1, 2021, which ousted the democratically elected government of Aung San Suu Kyi.
- Pro-democracy protests led to the formation of the **People's Defense Force (PDF)**, while ethnic armed groups like the **Kachin** and **Karen** resumed resistance against the military.

TEESTA RIVER
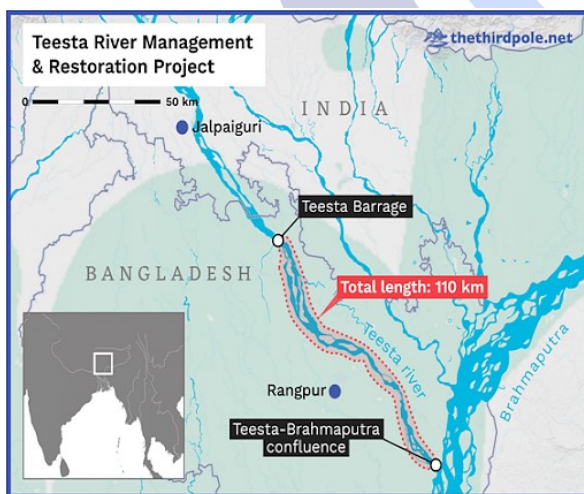
- The Teesta River is a tributary of the **Brahmaputra River** (known as Jamuna in Bangladesh) and flows through India and Bangladesh.

- It originates in the Himalayas near the **Tso Lhamo Lake**, in Sikkim, near the border with Tibet.
- It passes through the plains of West Bengal and enters Bangladesh, where it joins the Brahmaputra River.
- The Teesta Water Dispute is a long-standing issue between India and Bangladesh concerning the sharing of the waters of the Teesta River.
- A new water-sharing **agreement was proposed in 2011**, which suggested a more equitable distribution of water. According to reports, the draft agreement proposed **India receiving 42.5% of the water and Bangladesh receiving 37.5%.**
- However, the deal was not finalized due to opposition from the West Bengal government, which argued that the proposed distribution would adversely affect the state's farmers.
- From the Indian side, particularly in **West Bengal**, there is concern that releasing more water to Bangladesh could lead to water scarcity in the state's northern districts, impacting agriculture and local communities.
- As of now, no final agreement has been reached, and negotiations continue. It remains a sensitive political matter, affecting bilateral ties between India & Bangladesh.

BETWA RIVER
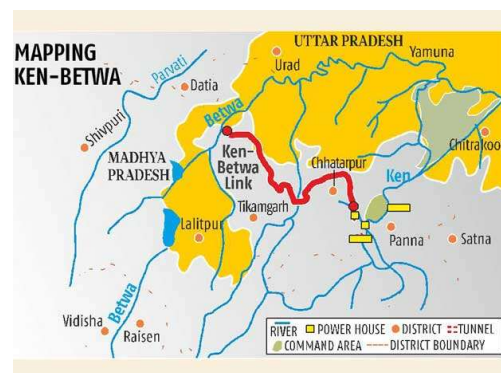
- The Betwa River, historically known as **Vetravati,** is significant in central and

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northern India, serving as a **tributary of the Yamuna River**.

- It originates in Raisen district, **Madhya Pradesh, in the Vindhya Range**.
- It flows generally northeast through **Madhya Pradesh and Uttar Pradesh states and empties into the Yamuna River** just east of Hamirpur after a 380-mile (610-km) course.
- Nearly half of its course, which is not navigable, runs over the **Malwa Plateau** before it breaks into the upland of **Bundelkhand**.
- **Tributaries:** The **Jamni and Dhasan** rivers are its major tributaries.
- **Dams:** The Betwa is dammed at Dukwan and Deogarh for irrigation and water management.

Significance:
- The Betwa River has been flowing since Vedic times and is **mentioned in the Vedas** through hymns and verses.
- In the Mahabharata, it is revered as Vetravati, symbolizing penance, purity, and perseverance.
- It is part of the **Ken-Betwa Link Project**, a major interlinking initiative designed to **transfer surplus water from the Ken River to the Betwa River** for irrigation and drinking purposes.
- The Indian Navy named one of its frigates **INS Betwa**.

ODESA

- Odesa is a **city in Ukraine** which has recently been in the news due to Russian attacks.
- The site is located **near the Black Sea** and is 500 km from the capital of Ukraine, Kyiv.
- Empress Catherine founded Odesa after taking away the region from the Ottoman Empire in 1794.
- The name Odesa is Greek.
- Catherine gave religious freedom to the people in Odesa and also offered them lands.
- She also gave Porto Franco, meaning a free port. No taxes were imposed on the port. This expanded the trade in Odesa attracting several foreign merchants.
- In 2023, Odesa was added to the UNESCO World Heritage List and inscribed on the **List of World Heritage in Danger**.

VENEZUELA

- It is located on the **northern coast of South America**.
- **Boundaries:** It is bounded by the **Caribbean Sea** and the **Atlantic Ocean** to the north, **Guyana** to the east, **Brazil** to the south, and **Colombia** to the southwest and west.
- **Capital:** Caracas
- **Geographical features:** Northern Andean Mountain chains and interior highlands, expansive **Llanos** (plains), **Lake Maracaibo**,

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which is the **largest lake in South America**, and the spectacular **Angel Falls**, the **world's highest waterfall**.
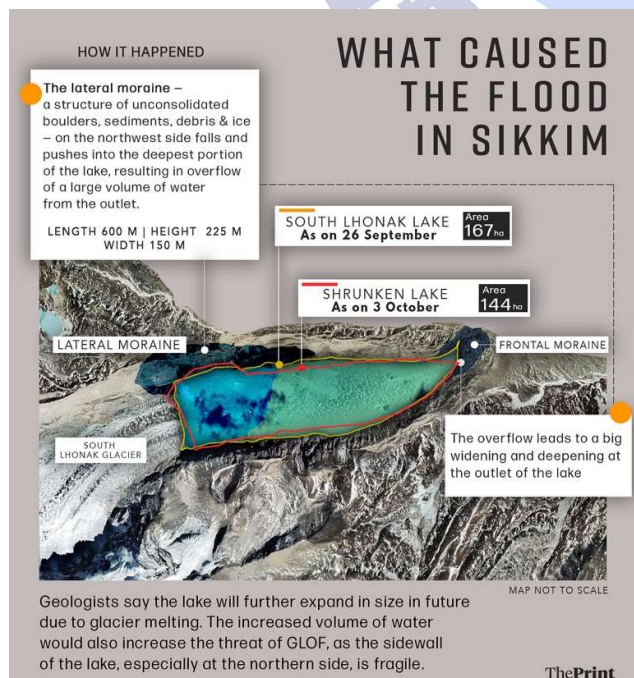
Major Rivers:

- **Rio Negro** (shared with Colombia and Brazil): 2,250 km. It is a **major tributary of the Amazon River**.
- **Orinoco** (shared with Colombia): 2,101 km. It is the **third-longest river in South America**, after the Parana and the Amazon.

Other features:

- Venezuela administers a number of Caribbean islands and archipelagos, among which are Margarita Island, La Blanquilla, La Tortuga, Los Roques, and Los Monjes.
- Since the early 19th century, Venezuela has claimed jurisdiction over Guyanese territory west of the Essequibo River, totaling some 53,000 square miles (137,000 square km)—nearly two-thirds of the land area of Guyana.
- **Resources:** Venezuela is home to the **world's largest oil reserves** as well as huge quantities of coal, iron ore, bauxite, and gold.
- **Currency:** Venezuelan bolívar

SOUTH LHONAK LAKE

HOW IT HAPPENED

WHAT CAUSED THE FLOOD IN SIKKIM

The lateral moraine – a structure of unconsolidated boulders, sediments, debris & ice – on the northwest side falls and pushes into the deepest portion of the lake, resulting in overflow of a large volume of water from the outlet.

LENGTH 600 M | HEIGHT 225 M WIDTH 150 M

SOUTH LHONAK LAKE As on 26 September — Area 167ha

SHRUNKEN LAKE As on 3 October — Area 144ha

LATERAL MORAINE

FRONTAL MORAINE

SOUTH LHONAK GLACIER

The overflow leads to a big widening and deepening at the outlet of the lake

MAP NOT TO SCALE

Geologists say the lake will further expand in size in future due to glacier melting. The increased volume of water would also increase the threat of GLOF, as the sidewall of the lake, especially at the northern side, is fragile.

The**Print**

- Located at 17100 feet above sea level in **Sikkim**.
- **Formation**: It is a **glacial moraine dammed lake** formed due to the melting of the Lhonak glacier.
- It is one of the 14 potential lakes susceptible to Glacial Lake Outburst Flood (GLOF).
- In 2023, Sikkim faced floods due to the breakage of the damming of this lake.

KARIMPUZHA WILDLIFE SANCTUARY
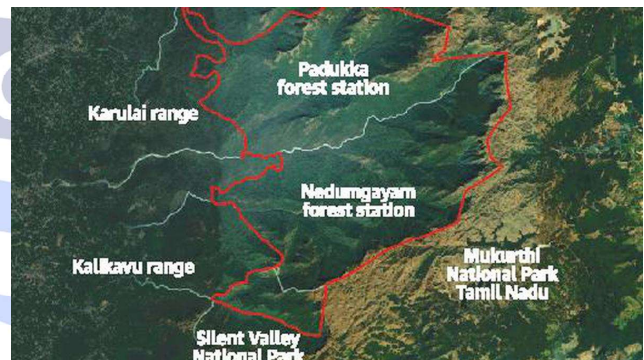
- It lies in the **Malappuram district** in Kerala. Spanning approximately 227.97 sq.km, the sanctuary is situated on the **western slopes of the Nilgiri Hills**.
- The forest areas of Karimpuzha WLS forms **part of the Nilgiri Biosphere Reserve (NBR)**, recognized under the **Man and Biosphere Programme of UNESCO**.
- Karimpuzha WLS **shares a boundary with Mukurthi National Park** (Tamil Nadu) on the eastern side and **Silent Valley National Park** (Kerala) on the southern side.
- The name 'Karimpuzha' is derived from the Karimpuzha River, a tributary of the River Chaliyar.
- The **sharp topographical gradient** of the hills ranging from 40 m to 2550 m is the primary reason for the unique biodiversity of the Karimpuzha WildLife Sanctuary.
- The area merges with landscapes of Tamil Nadu and Kerala.
- Steep hills, deep valleys, marshy lands, grasslands, and **shola forests** with hillocks, and perennial water sources combined with

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altitudinal variations make it an ideal habitat for a variety of flora and fauna.

- The nomadic tribes, **Cholanaikans**, Cavemen of Kerala, are living inside the Karimpuzha WLS.
  - They are classified as **Particularly Vulnerable Tribal Groups (PVTGs)** by the Govt of India.
- **Flora:** It is the state's only forest stretch with **all seven forest types** found in the state present - evergreen rainforest, semi-evergreen forest, moist deciduous forest, sub-tropical hill forest, sub-tropical savannah, montane wet temperate forest & montane grasslands.
- **Fauna:** It is home to a variety of fauna endemic to the Western Ghats, including the **Nilgiri Tahr, Lion-tailed macaque, slender loris, tiger, gaur**.

MAHANADI RIVER

- It is one of the major **east-flowing peninsular rivers** in India.
- **Origin:** The river originates from the **Sihawa range of hills** in the Dhamtari district of Chhattisgarh state.
- **Length:** It flows a total of 860 km by distance before it ends up in the Bay of Bengal.

Course:

- It flows in a southeastern direction via **Chhattisgarh & Odisha**. Its basin covers major parts of Chhattisgarh and Odisha and portions of Jharkhand, Maharashtra and Madhya Pradesh.

- It passes through several major cities, such as **Raipur, Sambalpur, & Cuttack**.
- The river is bounded in the north by Central India hills, in the south and east by the Eastern Ghats and in the west by Maikal hill range.
- Tributaries: The main tributaries of Mahanadi are **Seonath River, Jonk River, Hasdeo River, Mand River, Ib River, Ong River and Telen River**.

Hirakud Dam:

- The Hirakud Dam, the **world's longest earthen dam** (26km), is constructed across the Mahanadi River, about 15 km from Sambalpur in Odisha.
- The dam is used for irrigation, flood control, and power generation.

Chilika Lake:

- Chilika, named wetland of international importance under the Ramsar Convention, gets 61% of its inland flow from the Mahanadi river system, mainly from its distributaries - **Daya and Bhargabi**.
- It ranks **second to the Godavari River** among the peninsular rivers in respect of water potential.

Government Schemes

PM GATI SHAKTI

Context: The 88th meeting of the Network Planning Group (NPG) recently evaluated some major projects for their conformity to principles of PM Gati Shakti.

About PM Gati Shakti Master Plan:

- It is a **comprehensive infra development plan announced in Nov 2021** to improve economic growth and sustainable dvpt. by focusing on infra such as **roads, railways, airports, ports, mass transport, waterways, and logistics.**
- It is a **National Master Plan for multi-modal connectivity** that aims to incorporate infra schemes of various union govt Ministries such as **Bharatmala, Sagarmala, inland waterways, land ports, UDAN etc.**
- Under it, **100 critical infrastructure gap projects have been prioritized in FY24** for development with an **allocation of Rs. 75,000 crores.**
- It **subsumes the Rs 110 lakh crore National Infrastructure Pipeline** that was launched in 2019.
- Besides **cutting logistics costs**, the scheme is also aimed at **increasing cargo handling capacity** and **reducing the turnaround time at ports** to boost trade.
- It also aims to have **eleven industrial corridors and two defence corridors** - in Tamil Nadu and Uttar Pradesh.

- **Extending 4G connectivity to all villages** is another aim of the project.
- **Adding 17,000 kms to the gas pipeline** network is being planned under PM Gati Shakti.
- It will help in fulfilling the ambitious targets set by the govt for 2024-25, including **expanding length of national highway network to 2 lakh kms, creation of more than 200 new airports, heliports and water aerodromes.**
- The overall co-ordination of the scheme will be handled by the **Ministry of Commerce and Industry.**

Plan includes the development of **five main corridors:**

- **East-West Corridor:** Stretching from Silchar to Porbandar.
- **North-South Corridor:** Stretching from Srinagar to Kanyakumari.
- **North-East Corridor:** Stretching from Imphal to Kohima.
- **South-West Corridor:** Stretching from Ratnagiri to Kanyakumari.
- **East Coast Corridor:** Stretching from Kolkata to Kanyakumari.

Aims of PM Gati Shakti Master Plan:

- **Integrated planning and coordinated implementation** of infrastructure connectivity projects.
  - For example: Centralized portal to include all updates regarding existing & planned initiatives.
- **Multi-modal connectivity** for the movement of people, goods, services, etc. - facilitate **last mile connectivity.**
  - For example: **400 Vande Bharat trains** are to be manufactured and **200 PM Gati Shakti Cargo Terminals** are to be built.

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- **Reducing logistics costs** by filling critical infrastructure gaps, thus improving supply chains.
  - Government aims to bring down **logistics costs from 13% to 8% of GDP**
- **Making India the Business capital of the world** by providing proper linkages between local industry & and consumers.
  - For example: Economic Zones like pharma clusters, defence corridors, electronic parks, agri zones, industrial corridors, etc.

> The Gati Shakti Vishwa-Vidyalaya (GSV) is a Central University established through an Act of Parliament in 2022. It replaces the National Rail and Transportation Institute (NRTI) and is sponsored by the Ministry of Railways. The Chancellor of GSV is the Union Minister of Railways. GSV aims to create high-quality talent for the logistics sector.

MISSION KARMAYOGI

Context: The Union Ministry of Personnel, Public Grievances and Pensions recently organized a 'Rashtriya Karmayogi Jan Seva' training programme.

MISSION KARMAYOGI: RULES-BASED TO ROLES-BASED

National Programme for Civil Services Capacity Building (NPCSCB)

- Shift from 'Rules-based' to a 'Roles-based' human resource management
- Emphasise role of "On-Site learning" in complementing "Off-Site learning"
- Linking training and development of competencies of civil servants
- Transforming training institutions into Centres of Excellence
- Ministries to directly invest and co-create a common learning ecosystem
- Focus on massive scale training on e-learning

About Mission Karmayogi:

- It is also known as **National Programme for Civil Services Capacity Building** (NPCSCB). It aims for comprehensive capacity building at **individual, institutional and process levels.**
- It focuses on grooming civil servants of the future by making them more technology-enabled, innovative, progressive and transparent.
- In line with the aims of Mission Karmayogi, the **Capacity Building Commission (CBC) was constituted in 2021** to facilitate preparation of **Annual Capacity Building Plans** of depts, ministries and agencies.
- NPCSCB cover **all civil servants (including contractual employees)** across different ministries, department organisations and agencies of the Union Government.
- The **willing state governments will also be enabled** to align their capacity building plans on similar lines.

Guiding Principles of Mission Karmayogi:

- **Shift from rule-based to role based training:** This means a shift from rule-based, supply-driven capacity building to role-based, demand-driven capacity building.
- **Competency driven approach for capacity development:** Competencies can be defined as a combination of attitudes, skills and knowledge (ASK) that enable an individual to perform a task successfully in a given job.
- **70-20-10 Mandate:** 70% of learning comes from on-the-job experiences and reflections, 20% is derived from working with others; and 10% comes from planned training.
- **Link goal setting, planning & achievement:** Mission Karmayogi aims to align learning and capacity building with organizational goals and career goals of

individual officials and performance measurement.

- **Establishment of unbiased systems of evaluation:** Under Mission Karmayogi, there will be objective, fair and independent assessments to determine performance.

About Integrated Government Online Training (iGOT) Karmayogi Platform:

- It provides **targeted training courses on each officer's homepage**, directly addressing their unique capacity-building needs. With **over 28 lakh users** on the platform, it offers access to approximately 830 high-quality e-learning courses.
- It combines **traditional in-person classroom courses with online learning** elements to meet dynamic training needs of the officials.
- **VIKAS (Variable & Immersive Karmayogi Advanced Support)** is a blended learning programme designed to enhance the capacity of middle management civil servants in Central Secretariat. It focuses on the development of functional, behavioural & technical competency.
- **Karmayogi Digital Learning Lab (KDLL)** of the Dept. of Personnel and Training was inaugurated in 2021 to develop e-learning courses to build the capacity of the civil servants.

PRADHAN MANTRI SURAKSHIT MATRITVA ABHIYAN

Context: PM Surakshit Matritva Abhiyan has been an important intervention in empowering mothers in India.

About Pradhan Mantri Surakshit Matritva Abhiyan:

- The **Pradhan Mantri Surakshit Matritva Abhiyan** has been launched by the **Ministry of Health & Family Welfare**, Government of India.
- The program aims to provide **assured, comprehensive and quality antenatal care, free of cost, universally** to all pregnant women on the 9th of every month.
- **Target Group:** Pregnant women in their **2nd and 3rd trimester**, especially those from economically weaker sections.
- The programme follows a systematic approach for engagement with private sector which includes:
    o **motivating private practitioners to volunteer for the campaign** developing strategies for generating awareness
    o and appealing to the private sector to participate in the Abhiyan at government health facilities.
- It envisages to **improve the quality and coverage of Antenatal Care (ANC)** including diagnostics and counselling services as part of the **Reproductive Maternal Neonatal Child and Adolescent Health (RMNCH+A) Strategy**.

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Objectives of the Scheme:

- Ensure **at least one antenatal checkup** for all pregnant women in their second or third trimester by a physician/specialist.
- Improve the **quality of care during antenatal visits**. This includes ensuring provision of the following services:
  - All applicable diagnostic services
  - Screening for the applicable clinical conditions
  - Appropriate management of any existing clinical condition such as Anaemia, Pregnancy induced hypertension, Gestational Diabetes etc.
  - Appropriate counselling services and proper documentation of services rendered
  - Additional service opportunity to pregnant women who have missed ante-natal visits.
- **Identification and line-listing of high-risk pregnancies** based on obstetric/ medical history and existing clinical conditions.
- Appropriate **birth planning** and complication readiness for each pregnant woman especially those identified with any risk factor or comorbid condition.
- Special emphasis on **early diagnosis**, adequate and appropriate management of women with malnutrition.
- Special **focus on adolescent and early pregnancies** as these pregnancies need extra and specialized care.
- One of the critical components of the Abhiyan is **identification and follow up of high-risk pregnancies**.
- A sticker indicating the condition and risk factor of the pregnant women would be added onto MCP card for each visit:
  - **Green Sticker**- for women with no risk factor detected
  - **Red Sticker** – for women with high-risk pregnancy

E-SHRAM PORTAL

Context: The Union Ministry of Labour and Employment has urged gig and platform workers to register on the e-shram portal for formal recognition and access to benefits.

About E-Shram Portal:

- **Developed by:** Ministry of Labour & Employment.
- **Objective:** To create a **National Database of Unorganized Workers (NDUW)**, seeded with Aadhaar, encompassing details like name, occupation, address, educational qualifications, skill types, and family information.
- This aims to **optimize employability and extend social security benefits** to unorganized workers.
- **Scope:** It is the **first national database for unorganized workers**, including **migrant workers, construction workers, gig and platform workers**, among others.

Eligibility for Registration:

- **Age Criteria:** Unorganized workers aged between **16-59 years**.
- **Exclusions:** Individuals who are **members of EPFO, ESIC, or NPS (Government-funded)** are not eligible.
- **Definition of Unorganized Worker:** Any home-based, self-employed, or wage worker in the unorganized sector, **including those in the organized sector not covered by ESIC or EPFO** and not a government employee.

Benefits of Registration:

- **Accidental Insurance:** Registered workers receive an **accidental insurance cover of ₹2 lakh** under the **Pradhan Mantri Suraksha Bima Yojana**.
- **Social Security Delivery:** The portal will facilitate the delivery of various social security benefits to unorganized workers.

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- **Crisis Assistance:** In emergencies or national pandemics, the database can be utilized to provide necessary assistance to eligible unorganized workers.
- **Universal Account Number (UAN):** A 12-digit unique number assigned to each unorganized worker after registration on the e-Shram portal.
- Once assigned, the UAN remains unchanged for the worker's lifetime.
- **Validity:** The e-Shram card **does not have an expiration date** and does not require renewal.

MISSION AMRIT SAROVAR

Context: The Indian Railways will dig ponds as part of the Union government's Mission Amrit Sarovar that aims to address the critical issue of water scarcity in the country.
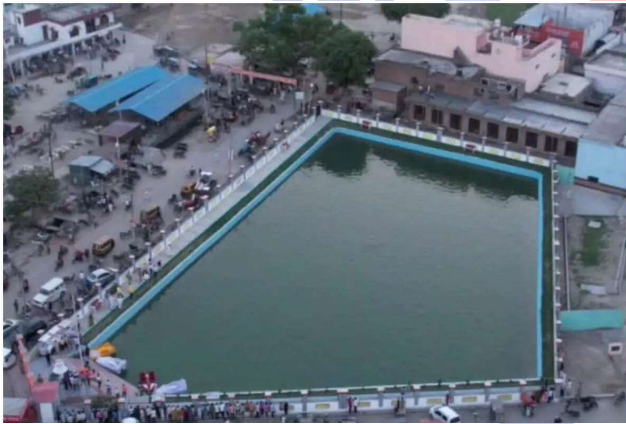

About Mission Amrit Sarovar:

- It was launched on 24th April, 2022 with the resolve **to build 75 Amrit Sarovars during the 75th year of independence as a part of Azadi ka Amrit Mahotsav**.
- It helps to overcome the water crisis in rural areas of the country.
- Every Amrit Sarovar will have a **pondage area of at least 1 acre with a water holding capacity of about 10,000 cubic metre**.
- It focuses on water conservation, people's participation and proper utilization of soil

excavated from the water bodies to boost infrastructure projects.
- This Mission has been launched with a **whole of Government Approach** which involves 6 Ministries/Department namely:
  - Dept of Rural Development, Department of land resources, Department of Drinking Water and Sanitation, Department of Water resources, Ministry of Panchayati Raj, Ministry of Forest, Environment and Climate changes.
- There is **no separate financial allocation** for Mission Amrit Sarovar.
- **Bhaskaracharya National Institute for Space Application and Geo-informatics (BISAG-N)** has been engaged as **Technical partner** for the Mission.

GREAT NICOBAR PROJECT

Context: Opposition MPs have been unsuccessful in getting the government to answer questions about the environmental and forest clearances granted to the Great Nicobar Island mega infrastructure project.
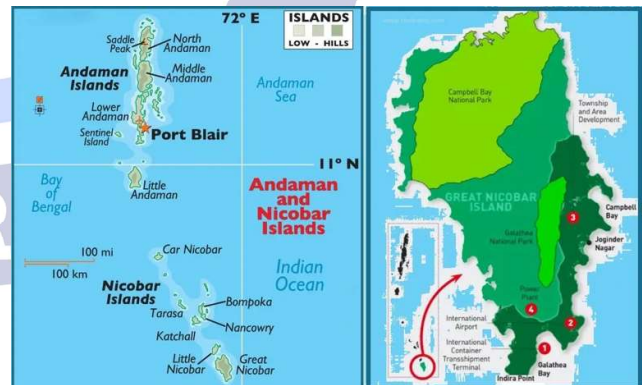
About Great Nicobar Project:

- The Great Nicobar Project is a **multi-development initiative** aimed at the holistic development of **Great Nicobar Island**, a strategic location in the southern end of the Andaman and Nicobar Islands.
- It was cleared by the **Ministry of Environment** in November 2022 and is part of a broader strategy to enhance India's

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strategic presence and infrastructure in the region.

- The project is expected to be developed over 30 years in a phased manner.
- **Location**: Great Nicobar Island is the **southernmost island in the Andaman and Nicobar group**, separated from the Andaman Islands by **the Ten Degree Channel**.
  - It is also home to **Indira Point**, India's southernmost point, located less than **150 km from Indonesia**.
- **Ecosystem**: The island features **tropical wet evergreen forests**, mountain ranges up to **650 meters high**, and coastal plains.
  - It also houses **two national parks** (Campbell Bay National Park and Galathea National Park) and a **biosphere reserve** (Great Nicobar Biosphere Reserve), supporting endangered species like **the leatherback sea turtle.**
- **Tribal population**: The island is home to the **Shompen**, a hunter-gatherer tribe, and the **Nicobarese**.

Objectives:

- **Strategic importance:** The project is designed to **counter expansionist activities** by neighbouring countries, particularly China, and to **safeguard India's maritime interests** by curbing illegal activities like poaching by Myanmarese fishers.
- **Infrastructure development:** The project is valued at **₹72,000 crore** and includes key infrastructure such as the development of an **international container trans-shipment terminal**, a **greenfield international airport** with dual military-civilian functions, **township development**, and a 450 MVA power plant (gas and solar-based).

Environmental and seismic issues:

- **Deforestation**: Approximately **13,075 hectares of forest land**, or **about 15%** of the island's area, is slated for diversion, with nearly **9.64 lakh trees** expected to be felled.
- **Seismic risks**: The region is seismically active, having experienced a major earthquake **(9.2 on the Richter scale) in 2004.**
  - Experts suggest a similar event may not occur for another 400-750 years, though smaller quakes are anticipated.
  - The project will adhere to the National Building Code for earthquake-resistant structures.

PM AWAAS YOJANA

Context: The Union Govt. recently launched the 'Awaas Plus 2024' mobile app to simplify the application process for beneficiaries under the PM Awaas Yojana.

PM Awaas Yojana - Gramin (PMAY-G):

- To achieve the objective of "Housing for All" by 2022, the erstwhile rural housing scheme Indira Awaas Yojana was restructured to PMAY-G in 2016.
- It is implemented by **Ministry of Rural Development.**
- Beneficiaries: **SCs/STs, freed bonded labourers, widows or next-of-kin of defence personnel killed in action, ex-servicemen, retired paramilitary personnel, PWDs, minorities.**
- Selection of Beneficiaries is based on a 3-stage validation based on **Socio Economic**

Caste Census (SECC) 2011, Gram Sabha, and geo-tagging.

- **Assistance provided:**
    o Rs 1.2 lakh (shared 60:40 between Union and State Govt)
    o Rs 1.3 lakh for North Eastern and Himalayan States (90:10).
- Centre had set a target of constructing **2.95 crore houses by March 2024.**
- Of this 2.95 crore, 2.04 crore were to be allocated to states based on SECC data. The remaining 91 lakh houses were to be allocated based on a survey, Awaas+, which was conducted between June 2018 and March 2019.
- Of the Centre's allocation of 2.95 crore houses - till July 17 2023, **2.90 crore have been sanctioned, of which 2.31 crore have been completed.**

PM Awaas Yojana – Urban (PMAY-U):

- PMAY-U is executed under aegis of **Ministry of Housing and Urban Affairs (MoHUA)** & aims to tackle shortage of urban housing among economically disadvantaged segments.
- It aims to provide pucca (durable & permanent) houses to all eligible urban households by Dec 2024.
- Implemented through 4 verticals:
    o Beneficiary Led Construction/Enhancement
    o Affordable Housing in Partnership
    o In-situ Slum Redevelopment
    o Credit Linked Subsidy Scheme
- **Beneficiaries:**
    o Economically Weaker Section - maximum annual family income of Rs. 3,00,00
    o Low Income Group -maximum annual family income of Rs. 6,00,000
    o Middle Income Groups - maximum annual family income of Rs. 18,00,000

- **1.18 crore houses have been sanctioned** as part of this scheme till now. Out of this total, **80.02 lakh houses have been completed.**
- Total investment in the scheme now stands at ₹8.11 lakh crore.

Announcements in the 2024 Budget:

- Investment of **₹10 lakh crore under the PMAY-Urban 2.0**, including Central assistance of ₹2.2 lakh crore in the next five years.
- **Rental housing with dormitory type accommodation for industrial workers** will be facilitated in public-private partnership mode with viability gap funding support.
- **3 crore additional houses under the PMAY in rural and urban areas** have been announced, for which the necessary allocations will be made.

AYUSHMAN BHARAT - PM JAN AAROGYA YOJANA

Context: In the 2025 Union Budget, the Finance Minister announced that the PMJAY has been expanded to cover gig economy workers.

About Ayushman Bharat – PM Jan Aarogya Yojana (AB-PMJAY):

- It is the **world's largest health insurance scheme** fully financed by the govt.

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- Launched in 2018, it offers a sum insured of **Rs.5 lakh per family** for secondary care and tertiary care. It covers surgery, medical and day care treatments, cost of medicines and diagnostics.

- Covers medical & surgical procedures for almost all health conditions through a **comprehensive list of 1,949 packages**. It features **packaged rates** (each product/service during treatment cannot be charged separately).

- Beneficiary card for AB-PMJAY can be used to **avail benefits for any existing state health insurance schemes**.

- In the 2024 Interim Budget, the union govt. decided to extend health **coverage under the scheme to Accredited Social Health Activists (ASHAs) and Anganwadi workers.**

- **No restrictions on family size, age or gender** for inclusion and **all pre–existing conditions are covered.**

- It covers up to **3 days of pre-hospitalization and 15 days post-hospitalization** and **benefits of the scheme are portable across India.**

- Scheme has a **dedicated workforce of PM Arogya Mitras (PMAMs)** who guide and assist beneficiaries.

- PMAMs also make **calls to every beneficiary who availed treatment within 48 hrs of discharge** to verify quality of treatment.

- Scheme has a **National Anti-Fraud Unit** (NAFU) to design, implement, and oversee anti-fraud initiatives. There are also **Anti-Fraud Units at the state level.**

Identification of Beneficiaries:

- It targets the beneficiaries as identified by latest **Socio-Economic Caste Census (SECC)** data.

- National Health Authority (NHA) has **provided flexibility to States & UTs to use non-SECC beneficiary databases** with similar socio-economic profiles for tagging leftover families.

Funding:

- Funding is **shared – 60:40 for all states and UTs with a legislature**, 90:10 in Northeast and Himalayan states, and 100% Central funding for other UTs.

Nodal Agency:

- **National Health Authority (NHA)** has been constituted as an autonomous entity **under the Society Registration Act, 1860** for implementation of PM-JAY.

- The **State Health Agency (SHA)** is responsible for the implementation of AB-PMJAY in individual states.

Achievements of AB-PMJAY:

- It has covered over **15.5 crore families (55 crore beneficiaries)**.

- **11 states/UTs have pushed for 100% coverage** of their population.

- Approx. **28.45 Crore Ayushman Cards have been created since 2018**, out of which **9.38 crore were created in 2023.**

- **26,901 hospitals including 11,813 private hospitals** have been empanelled under AB PM-JAY.

- Catered to more than **6.11 crore hospital admission worth Rs 78,188 crore** in since 2019.
  - 1.7 crore hospitals admissions worth over ₹25,000 crores were authorised during 2023.

- It has **reduced out of pocket expenditure (OOPE) of beneficiaries by 60 %** and **increased access to tertiary care by 65 %.**

> Women account for approx. 49% of total Ayushman cards created and approx. 48% of total authorized hospital admissions. Recently, the Union Govt. extended the coverage of AB-PMJAY to all senior citizens aged above 70.

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SWADESH DARSHAN SCHEME

Context: IRCTC has launched the Ramayana circuit train as part of the Swadesh Darshan Scheme.

About Swadesh Darshan Scheme:

- Launched in 2014-15 for integrated development of **theme-based tourist circuits**.
- **Funding:** 100% centrally funded.
    - o Efforts are made to achieve convergence with other Central and state schemes and also to leverage CSR funding.
- **Nodal ministry:** Ministry of Tourism.
- The Ministry of Tourism has now **revamped its Swadesh Darshan scheme** as **SD2.0** with the objective to develop sustainable and responsible destinations following a tourist & destination centric approach.

Other initiatives for tourism promotion

- ✓ **PRASHAD Scheme:**
    - o This scheme focuses on developing and identifying pilgrimage sites across India for enriching the religious tourism experience.
    - o It aims to integrate pilgrimage destinations in a prioritised, planned and sustainable manner to provide a complete religious tourism experience.
- ✓ **Iconic Tourist Sites:**
    - o Buddhist Sites at Bodhgaya, Ajanta & Ellora have been identified to be developed as Iconic Tourist Sites (aimed at enhancing India's soft power).
- ✓ **Buddhist Conclave:**
    - o Buddhist Conclave is organised **every alternate year** with the objective of promoting India as a Buddhist Destination and major markets around the globe.

- ✓ **Dekho Apna Desh Initiative:**
    - o It was launched by the Ministry of Tourism in 2020 to encourage the citizens to travel widely within the country thus enabling the development of Domestic Tourism tourist facilities and infrastructure.

PM JANJATIYA UNNAT GRAM ABHIYAN (PM JUGA)

Context: Tribal homestays are being planned to boost tourism as part of the PM Janjatiya Unnat Gram Abhiyan.

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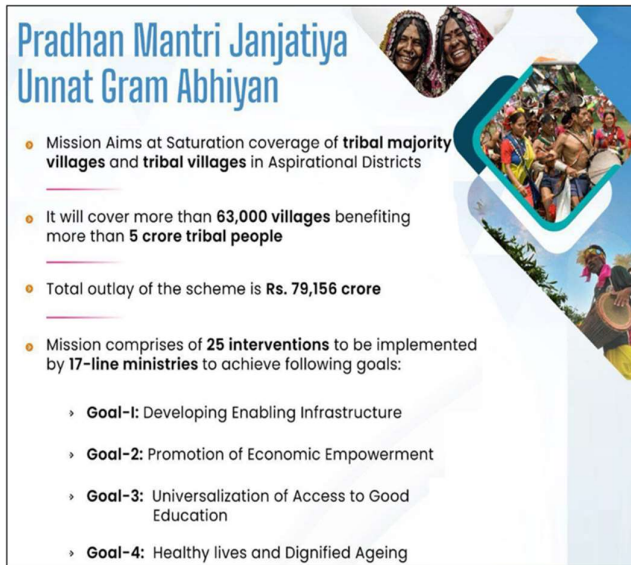
About PM JUGA:

- ✓ It is a **centrally sponsored scheme** for the **welfare of tribal families in tribal-majority villages and aspirational districts**.
- ✓ **Target Areas and Coverage:** It will cover 549 districts and 2,740 blocks spread across all tribal majority villages across 30 States/UTs.
- ✓ It will cover **around 63,000 villages** benefitting more than 5 crore tribal people.
- ✓ According to the 2011 Census, India has a **Scheduled Tribe (ST) population of 10.42 crore (8.6%)**, consisting of over 705 tribal communities.
- ✓ **Objective:** It envisions **fulfilling critical gaps in social infrastructure** like health, education, livelihood, through different schemes of Government of India by convergence and outreach.
- ✓ **Goals of the Mission:** It comprises **25 interventions** which will be implemented by **17 ministries** through funds allocated to them under the **Development Action Plan for Scheduled Tribes (DAPST)** in the next 5 years to achieve the following goals.

Developing Enabling Infrastructure:

- **Pucca house** for Eligible Households under the **PM Awas Yojana (Rural)** with availability of tapped water (Jal Jeevan Mission) and electricity supply.

- Improving Village Infrastructure: Ensuring **all weather road connectivity to ST majority villages** (PMGSY), mobile connectivity (**Bharat Net**) and internet, infrastructure for improving **health, nutrition, and education** (National Health Mission, Samagra Shiksha and Poshan Abhiyan).
- **Economic Empowerment** through **Skill India Mission** and assistance in agriculture, animal husbandry, and fishery sectors for Forest Rights Act, 2006 (FRA) patta holders.
- **Universalisation of Access to Quality Education**
- **Healthy lives and Dignified Ageing:** It aims to reach towards the national standards in **IMR, MMR and coverage of immunisation through Mobile Medical Units** in areas where the sub centre is more than 10 km in plain areas and 5 kms in Hilly areas.
- **Mapping and Monitoring**: The tribal villages covered under the mission would be **mapped on PM Gati Shakti Portal**.

Livelihood Promotion Schemes under the PM JUGA:

- **Tribal Home Stay:** 1000 homestays under Swadesh Darshan scheme to boost tourism in tribal areas.
- Villages with tourist potential will receive funding for **5-10 homestays**, with **each household eligible for Rs 5 lakh** to build two new rooms, up to Rs 3 lakh for renovating existing rooms, and Rs 5 lakh for community needs.
- **Sustainable Livelihood for Forest Right Holders:** Special focus on Forest Rights Act patta holders to expedite recognition of rights.
- Improving **infrastructure of Govt residential Schools** and Hostels
- **Advanced facilities for diagnosis of Sickle Cell Disease:** Centre of Competence (CoC) to be set up in AIIMS and premier Institutes in the States where Sickle cell disease is prevalent.

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- **Tribal Multipurpose Marketing Centre (TMMCs):** 100 TMMCs will be set up for **effective marketing of tribal products**.

KHELO INDIA SCHEME

Context: The 5th Edition of the Khelo India Winter Games recently concluded in Gulmarg in Jammu and Kashmir.

About Khelo India Scheme:

- It was **launched in 2017** to give a platform to grassroots athletes and to **build sports infra** across India, turning India into a major sporting nation.
- It is a **central sector scheme under Ministry of Youth Affairs & Sports** (MoYAS).
- Its **implementation is co-terminus with the term of the 15th Finance Commission** (2021-22 to 2025-26), with an estimated outlay of Rs 3165.50 crore.
- Under the scheme, **Khelo India Youth Games, Khelo India University Games (KIUG) and Khelo India Winter Games** were set up as annual sporting events.
- Several Khelo India athletes have been inducted in the elite **Target Olympic Podium Scheme (TOPS)** over the years based on their performance.
- Talented players identified in priority sports at various levels will be provided **annual financial assistance of INR 5 lakh per annum for 8 years.**

About Khelo India Rising Talent Program (KIRTI) Programme:

- KIRTI Programme is **aimed at school children aged 9 to 18**, with two main objectives: discovering talent nationwide and using sports to reduce drug addiction and gadget distractions.
- It plans to conduct **20 lakh assessments through Talent Assessment Centres** to identify potential athletes.
- The programme aims to reach every block in India to connect with children interested in sports.
- KIRTI launched across 50 centres, assessing 50,000 applicants in its first phase across 10 sports, including athletics, boxing, and hockey.
- It features a **transparent selection process using IT and AI-based data analytics** to predict athletic potential.
- Nodal agency for implementation: **Sports Authority of India (SAI)**

Target Olympic Podium Scheme (TOPS):

✓ It was launched in 2014.

✓ It will focus on ensuring representation from High-Priority sports (Badminton, Boxing, Hockey, Archery, Shooting and Wrestling).

✓ Mission Olympic Cell has been created under Sports Authority of India (SAI) as a dedicated body to assist the athletes who are selected under TOPS.

START UP INDIA SCHEME

Context: Centre for Development of Telematics, an R&D body under the Telecom Dept., launched the 'Samarth' Incubation Program under the Start Up India Scheme, aimed at start-ups in the telecom sector.

About Start Up India Scheme:

- It is a flagship initiative of Union Govt, intended to build a strong eco-system for nurturing innovation and Startups that will drive sustainable economic growth and generate large scale employment opportunities.
- Under this initiative, the govt. has launched **I-MADE program** to help Indian entrepreneurs build 10 lakh mobile app start-ups and **PM Mudra Yojana** to provide micro-finance, low-interest rate loans to entrepreneurs.
- It is being **implemented by Dept. for Promotion of Industry and Internal Trade (DPIIT)** under the Ministry of Commerce and Industry.

Benefits under the Scheme

- 10,000 crore **startup funding pool.**
- Reduction in **patent registration fees.**
- **Freedom from inspections** for first 3 years of operation.
- **Freedom from Capital Gain** Tax for first 3 years of operation.
- **Freedom from corporate tax** for first 3 years of operation.
- Self-certification compliance.

About the now-scrapped Angel Tax (scrapped in 2024 Budget):

- Angel tax is an **income tax levied at the rate of 30.6%** when an **unlisted company issues shares to an investor at a price higher than its fair market value.**
   o Fair market value is the price of an asset when buyer and seller have

reasonable knowledge of it and are willing to trade without pressure. The **excess funds raised at prices above fair value is treated as income, on which tax is levied.**

- Initially, angel tax was applicable only to investments made by resident investors. The **Finance Act, 2023 extended this provision to include foreign investors** as well.
- This means that when a start-up raises funding from a foreign investor, it will also be counted as income and subjected to taxation.
- Angel tax essentially derives its genesis from **Section 56(2)(viib) of the Income Tax Act, 1961**. The finance act, 2012 introduced the section to impose taxes on any investment, received by any unlisted Indian company, valued above the fair market value by treating it as income.

Status of Start-up Ecosystem in India

- ✓ >1 Lakh DPIIT-recognized startups across 763 districts as of 3rd Oct 2023.
- ✓ India is home to **111 unicorns** with a total valuation of USD 349.67 billion.
- ✓ 45 unicorns were born in 2021 and 22 unicorns were born in 2022.
- ✓ The start-up ecosystem in India ranks **third after that of US and China.**
- ✓ Number of cumulative start-ups has **grown at 17% year-on-year since 2012** and has now crossed 1,18,000 (from roughly 400 startups in 2016).
- ✓ **States' Startup Ranking for 2023** by DPIIT: **Karnataka, Gujarat, and Kerala** recognized as best-performing states.

Other Initiatives for Startups:

- ✓ **Start-Ups Intellectual Property Protection (SIPP) scheme**: To facilitate start-ups to file applications for patents, designs and trademarks.
- ✓ **MAARG Portal:** National Mentorship Platform by Startup India to facilitate

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mentorship for startups across diverse sectors, functions, and stages.

✓ **National Startup Advisory Council:** To advise Union Govt. on measures needed to build a strong ecosystem for nurturing innovation and startups.

✓ **Start-Up Village Entrepreneurship Program:** Enable rural entrepreneurs to access banking system for receiving financial support. Implemented as a sub-scheme under DAY-NRLM.

A startup is defined by the DPIIT as an entity headquartered in India, opened less than 10 years ago, and has annual turnover less than ₹100 crore.

PM WANI Scheme

Context: The Union Govt. recently provided an oral reply in Parliament regarding the aims and status of implementation of the PM WANI Scheme for digital connectivity.

PM WANI
Broadband at your fingertips
Prime Minister's Wi-Fi Access Network Interface

About PM WANI Scheme:

- **Prime Minister Wi-Fi Access Network Interface** (PM WANI) was launched by Dept. of Telecom (DoT) in December 2020 and aims to bolster the penetration of public WiFi hotspots to establish a **robust digital communication infra throughout the nation, especially in rural areas.**

- It enables any entity, such as a shopkeeper, a tea stall owner, etc. to **set up a public Wi-Fi hotspot** and provide internet service to customers.

- It aims to take forward the goal of the **National Digital Communications Policy,**

2018 (NDCP) of creating a robust digital communication infra.

- Nodal Agency: **Ministry of Communications**

Components of PM WANI:

- **Public Data Office (PDO):** PDO is the entity that establishes, maintains, and operates the Wi-Fi hotspot and provides connectivity to users by procuring internet bandwidth from telecom/internet service providers.

- **Public Data Office Aggregator (PDOA):** PDOA is the entity that provides aggregation services, such as authorization and accounting, to PDOs, and facilitates them in providing services to the end users.

- **App Provider:** It is the entity that develops an application to register users and discover and display PM-WANI compliant Wi-Fi hotspots in proximity and also authenticate the potential users.

- **Central Registry:** It maintains details of App Providers, PDOAs, and PDOs. It is currently maintained by the Centre for Development of Telematics (C-DoT) under the Telecom Dept.

ADITI Scheme

Context: As part of ADITI Scheme, the Defence Ministry held talks with over 50 start-ups and MSMEs to study challenges they face, identify opportunities and support them in accelerating innovation.

ADITI Scheme

About Acing Development of Innovative Technologies with iDEX (ADITI) Scheme:

- It was launched in March 2024 and is aimed at **fostering indigenous innovations in critical and strategic defence technologies.**
- The scheme targets **development of approximately 30 deep-tech critical and strategic technologies** within the proposed timeframe.
- **Start-ups can avail grant-in-aid of up to 50% of project development budget (maximum Rs 25 crore)** for their research, development, and innovation efforts in defence tech.
- ADITI is backed by a budget of **Rs 1150 crore spanning from 2023-24 to 2025-26.**
- It **operates within iDEX** (Innovations for Defence Excellence) framework under the Ministry of Defence.

Features of the Scheme

- **Bridge-building Initiative:** ADITI aims to establish a 'Technology Watch Tool' to bridge the gap between the modern Armed Forces' expectations and requirements and the capabilities of the defence innovation ecosystem.
- **Incentives for Innovators:** iDEX has been expanded to iDEX Prime, offering increased assistance from Rs 1.5 crore to Rs 10 crore.
- **Empower Youth:** Aims to nurture youth innovation, propelling India forward in defence technology.

Innovations for Defence Excellence (iDEX) Initiative

- ✓ iDEX is an initiative to contribute towards **modernization of the defence industry**. It was launched in April 2018.
- ✓ iDEX aims to **promote innovation and technology development in defence and aerospace by engaging industries** (including MSMEs, R&D institutes start-ups, academia, and individual innovators).

- ✓ iDEX will provide the industry with funding and other support to carry out Research & Development.
- ✓ It will be **funded and managed by Defence Innovation Organization** (DIO), and will function as the executive arm of DIO.

WORLD'S LARGEST GRAIN STORAGE PLAN

Context: The NLCC (National Level Coordination Committee) for the World's Largest Grain Storage Plan recently held its meeting under the Ministry of Cooperation.

About World's Largest Grain Storage Plan:

- Through this plan, the govt. aims to **build storage capacity of 700 lakh metric tons** and thereby almost **double the existing storage capacity in the country**. The Food Corporation of India currently has a storage capacity of 361.62 lakh tonnes and state govt agencies have capacities of another 400.74 lakh tonnes.
- The plan focuses on **creation of godowns and other agricultural infra at the level of Primary Agricultural Credit Societies (PACS)** and thereby strengthen food security, reduce wastage, and empower farmers.
- This project aims to **converge eight ongoing schemes of three ministries** to address the shortage of agricultural storage infrastructure in India.
- An **Inter-Ministerial Committee (IMC) will be constituted under the Minister of Cooperation**, with the participation of **Ministers of Agriculture and Farmers Welfare; Consumer Affairs, Food and Public Distribution; and Food Processing Industries.**
- Ministry of Cooperation developed this plan to leverage strength of cooperatives and transform them into successful

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businesses **aligned with vision of Sahakar se Samriddhi (Cooperation for Prosperity).**

- Focuses on establishing **agri-infra (warehouses and processing units) at PACS level.** This approach aims to enhance economic viability of PACS & contribute to agricultural growth.

8 SCHEMES IDENTIFIED FOR CONVERGENCE

Ministry of Agriculture and Farmers' Welfare
- Agriculture Infrastructure Fund (AIF)
- Agricultural Marketing Infrastructure Scheme (AMI)
- Mission for Integrated Development of Horticulture (MIDH)
- Sub-Mission on Agricultural Mechanization (SMAM)

Ministry of Food Processing Industries
- Pradhan Mantri Formalization of Micro Food Processing Enterprises Scheme
- Pradhan Mantri Kisan Sampada Yojana (PMKSY)

Ministry of Consumer Affairs, Food and Public Distribution
- Allocation of food grains under the Food Security Act
- Procurement ops at MSP

Primary Agricultural Credit Societies

- ✓ PACS constitute **lowest tier of the Short-Term Cooperative Credit structure** in India, headed by the State Cooperative Banks (SCB) at the state level.
- ✓ Credit from SCBs is transferred to District Central Cooperative Banks (DCCBs). DCCBs work with PACS, who deal directly with farmers.
- ✓ **The first PACS was established in 1904**. They are involved in short term lending. At the start of the cropping cycle, farmers avail credit to finance requirements of seeds, fertilisers etc.

Other Initiatives for Food Grain Storage:
Agriculture Infrastructure Fund (AIF):

- ✓ Helps in creation of post-harvest management infra and community agri-assets through fiscal support.
- ✓ It includes interest subvention of 3% for a loan up to Rs. 2 Crore per project location for 7 years.

PM-Kisan BHAI (Bhandaran Incentive) Scheme:

- ✓ Aims to incentivize farmers to retain produce for a minimum 3 months post-harvest and thus break the monopoly of traders in setting prices.
- ✓ It has two key components:
  - o Warehouse Rental Subsidy: FPOs and small farmers can avail benefit of ₹4 per quintal per month.
  - o Repayment Incentive: 3% extra interest subvention under Kisan Credit Card.

### *SMART food grain storage system (SAFETY) technology:*

- ✓ Developed by Tata Institute of Fundamental Research and MEITY.
- ✓ Conveyorized loading and unloading of grain bags & RFID tech for traceability, online weight and moisture measurement, and removal of moisture.
- ✓ Can handle nearly one truckload (approx. 28 tons) of grains in just 40 minutes.

e-Kisan Upaj Nidhi:

- ✓ Aims to ease warehousing logistics for farmers & ensure fair prices for produce. It will reduce security deposit charges at warehouses from 3% to 1%, encouraging small farmers to utilize them.
- ✓ Facilitates simplified digital processes for farmers to store produce for 6 months**.**

PM GARIB KALYAN ANNA YOJANA (PMGKAY)

Context: During the ongoing session of Parliament, the Union Govt. highlighted the wide-ranging positive socio-economic impacts of the PM Garib Kalyan Anna Yojana.

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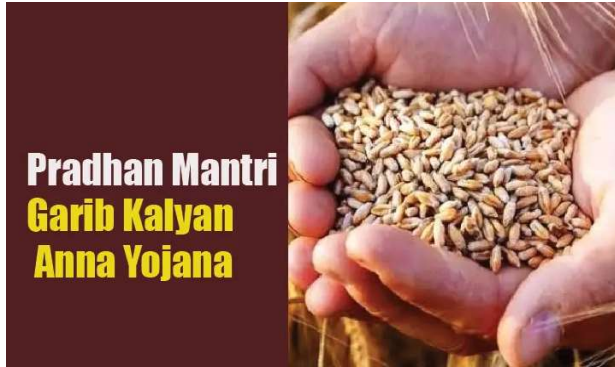
About PM Garib Kalyan Anna Yojana (PMGKAY) Scheme:

- It was first introduced in 2020 during Covid-19 pandemic to provide **5kg free foodgrains to eligible ration card holders** under NFSA.
- Initially set to expire in Dec 2022, it was extended till Dec 2023 and now, it has been **extended till Dec 2028.**
- Since its inception, union govt has allocated **1,118 lakh metric tonnes of foodgrains** from its procurement pool at a cost of Rs 3.9 lakh crore.
- It provides free grains to about **81.35 crore people. Each person covered under National Food Security Act, 2013 (NFSA) is given an extra 5 kg grains (wheat/rice) for free**, in addition to grains already provided via the Public Distribution System.
- Nodal Ministry: **Ministry of Finance.**
- **Beneficiaries are identified based on 2011 Census** (same as NFSA 2013).

Eligibility Criteria for PMGKAY:

- **Families belonging to Antyodaya Anna Yojana (AAY) and Priority Households (PHH)** category will be eligible for the scheme.
    - PHH is identified by States/UTs as per criteria evolved by them.
    - AAY families are identified by States/UTs as per criteria prescribed by Union Govt.
- Households headed by **widows, or terminally ill persons, or disabled persons, or persons aged 60** or more with no assured means of subsistence or societal support.
- All **tribal households, landless agricultural labourers, marginal farmers, rural artisans and craftsmen, slum dwellers, informal daily wage labourers** in both rural and urban areas are also eligible.
- All citizens who belong to **Below Poverty Line families** are eligible**.**

Eligibility Criteria for NFSA:

- Coverage: **75% of rural population** & upto **50% of urban population** for receiving subsidized foodgrains under Targeted PDS (TPDS). Overall, NFSA **covers 67% of total population.**
- PHHs and AAY will be covered under TPDS, according to guidelines by the State govt.
- Provisions are as follows:
    - **5 kg of foodgrains** per person per month at Rs. 3/2/1 per Kg for rice/wheat/coarse grains. **AAY household will continue to receive 35 kg of foodgrains** per household per month.
    - **Meal and maternity benefit** of not less than Rs. 6,000 to pregnant women and lactating mothers during pregnancy and six months after the child birth.
    - **Meals for children upto 14 years** of age.
    - **Food security allowance** in case of non-supply of grains.
    - Setting up of **grievance redressal mechanisms** at the district and state level.

> 💡 👥 In January 2023, the PMGKAY was integrated with the NFSA 2013, resulting in the provision of all rations for AAY and PHH families at no cost.

PM UJJWALA YOJANA

Context: The Direct Benefit Transfer scheme and 'Give It Up' campaign under PMUY completed a decade since their nationwide launch.

About PM Ujjwala Yojana (PMUY):
- The Pradhan Mantri Ujjwala Yojana is a flagship scheme **with the objective of making clean cooking fuel such as LPG available to the rural and deprived households**.
  - The International Energy Agency says about **681 million people** in India rely on **solid fuels** for cooking, posing serious health and environmental concerns.
- Introduced by: The **Ministry of Petroleum and Natural Gas**

Objectives:
- **Empowering women** and protecting their health.
- **Reducing the number of deaths** in India due to unclean cooking fuel.
- Preventing young children from a significant number of **acute respiratory illnesses** caused due to **indoor air pollution** by burning fossil fuel.

Features:
- The scheme provides a **financial support** of Rs 1600 for each LPG connection to the BPL households.
- Along with a **deposit-free LPG connection**, Ujjwala 2.0 will provide the first refill and a hotplate free of cost to the beneficiaries.

Benefits of PMUY:

- The eligible beneficiaries receive a **free LPG connection**.
- The beneficiaries also receive a **subsidy on the first six refills** of 14.2 kg cylinders or eight refills of 5 kg cylinders.
- The beneficiaries can opt for an EMI facility to pay for the cost of the stove and the first refill.
- The beneficiaries can also join the **PAHAL scheme** to receive the subsidy amount directly in their bank accounts.

Phases of PMUY:
Phase I:
- It was launched on May 1, 2016.
- The target under the scheme was to release **8 Crore LPG Connections** to the deprived households by March 2020.
- The release of 8 Crore LPG connections under the scheme has also helped in **increasing LPG coverage from 62% in May 2016 to 99.8%** as on 1st April 2021.

Phase II:
- In FY 21-22, **additional 1 crore LPG connections** to the eligible households by March 31, 2022 was provisioned.
- The target of releasing additional 1 crore LPG connections under Ujjwala 2.0 was achieved in January 2022.

Phase III:
- In 2023, the Union cabinet approved the extension of PMUY for the **next three financial years** from 2023-24 to 25-26.

SWACHH BHARAT MISSION

Context: Union Minister of Housing and Housing & Urban Affairs Shri Manohar Lal chaired a Consultative Committee Meeting on Swachh Bharat Mission – Urban 2.0.

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SWACHH BHARAT ABHIYAN

About Swachh Bharat Mission (SBM):

- It was **launched on Oct 2, 2014**, to fulfil the vision of a clean India. Its objectives were to **eliminate open defecation, eradicate manual scavenging, and promote scientific solid waste management.**
- It consists of two separate sub-missions:
  - **SBM-Grameen (under Ministry of Jal Shakti)**
  - **SBM-Urban (under Ministry of Housing and Urban Affairs)**
- Since its launch, it has helped **construct over 6 lakh community and public toilets** across India.
- It emphasized **behavioural change through mass awareness campaigns,** encouraging citizens to adopt cleaner practices.
- It uses **Swachhta leagues & rankings to create a healthy competition** between states, towns, and cities.

SBM – Grameen (SBM-G):

- It aims to accelerate the efforts to achieve **universal sanitation coverage** and to put **focus on sanitation in policy making.**
- It is being implemented as nation-wide campaign to **eliminate open defecation in rural areas.**
- The rural sanitation coverage at the time its launch was reported as **38.7%. This reached 100% by 2019 (ODF Status).**
  - Now the subsequent goal is to transition **all villages to ODF Plus by 2024-25.**

- Currently, **85% of villages have attained ODF Plus** status.
- According to the National Annual Rural Sanitation Survey (NARSS) Round 3 - **95% of India's rural population had toilet access, with 79% owning their facilities**
- **SBM(G) Phase-II:** It emphasizes the **sustainability of achievements under Phase** I and aims to provide adequate facilities for **Solid/Liquid & plastic Waste Management (SLWM).**
  - It will be implemented from **2020-21 to 2024-25** in with an outlay of Rs. 1,40,881 crores.
- The SLWM component of ODF Plus will be monitored based on **output-outcome indicators for 4 key areas:**
  - Plastic waste management
  - Biodegradable solid waste management
  - Greywater (Household Waste-water) management
  - Faecal sludge management.
- Top 5 performing states: **Tamil Nadu, Telangana, Odisha, Uttar Pradesh and Himachal Pradesh** (maximum number of ODF Plus villages).

SBM – Urban (SBM-U):

- It aims to make cities and towns across India free from open defecation. It focuses on **door-to-door waste collection, waste segregation, and scientific waste processing via bio-methanation plants & material recovery facilities.**
- It has mobilized over Rs **20,000 crores for investment in solid and liquid waste management systems** to strengthen urban infra across India.
- **Phase 1 focused on making urban India ODF** by providing access to toilets and promoting behavioural change.
  - SBM-U 1.0 was successful in achieving its targets and **100% of urban India was declared ODF in**

2019 - covering **4.715 urban local bodies (ULBs).**

- o 3**,547 ULBs are ODF+** with functional and hygienic community and public toilets.
- o **1,191 ULBs are ODF++**, having complete faecal sludge management.
- o **14 cities are certified Water+,** which entails treatment of wastewater & optimum reuse.

- **SBM-U 2.0 was announced in Budget 2021-22**, and is the continuation of SBM-U first phase. It will be implemented from 2021 to 2026.
  - o **SBM-U 2.0 will go beyond ODF++ and will focus on making urban India garbage-free.** It focuses on sustainable sanitation practices, waste management, and promotion of a circular economy.

- **Waste Processing in India has gone up by over 4 times from 17% in 2014 to 75% in 2023**, aided through **100% door-to-door waste collection in 97% wards.**

- **Source segregation of waste** is being practised by citizens across **almost 90% wards in all ULBs**.

- **Garbage Free Cities (GFC) Star Rating** protocol was launched in Jan 2018. The number of GFC cities has increased from **only 56 cities in 2018 to 445 cities in 2023, with a target of at least 1,000 GFC cities by 2026.**

- **2023 Budget has further reinforced India's commitment to building a circular economy** through an enhanced focus on scientific management of dry and wet waste.

Open Defecation Free (ODF) Status:

- ✓ **ODF:** An area can be declared as ODF if at any point of the day, not even a single person is found defecating in the open.
- ✓ **ODF+:** At any point of the day, not a single person is found defecating in the open, and

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all public toilets are functional and well maintained.

- ✓ **ODF++:** Area is already ODF+ and faecal sludge/septage and sewage are safely managed & treated, with no dumping of untreated faecal sludge and sewage into open drains or water bodies.

ATAL MISSION FOR REJUVENATION AND URBAN TRANSFORMATION (AMRUT)

Context: India is set to become the nation with the largest urban population making urban missions significant.

About AMRUT:

- **Atal Mission for Rejuvenation and Urban Transformation (AMRUT)** was launched on 25th June 2015 in **500 selected cities** across the country, covering around **60% of the urban population**.

- The mission targets **enhancing basic infrastructure and implementing urban reforms** for selected cities, encompassing water supply, sewerage, drainage, green

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spaces, non-motorised transport, and capacity building.

AMRUT 2.0 Scheme:

- The scheme was launched on 1st October 2021, subsuming AMRUT 1.0 for the period of 5 years i.e. from the financial year (FY) 2021-22 to the FY 2025-26.

- Its objective are **universal coverage of water supply** from 500 cities to about 4,900 statutory towns in the country and **coverage of sewerage/septage management** in 500 cities covered in the first phase of the AMRUT scheme.

- AMRUT 2.0 aims to **promote the circular economy of water** through the development of a **City Water Balance Plan (CWBP)** by recycling/reuse of treated sewage, rejuvenation of water bodies and water conservation.

- The mission also has a reform agenda on **ease of living** of citizens through the reduction of non-revenue water, urban planning, strengthening urban finance etc.

Other components of AMRUT 2.0:

- **Pey Jal Survekshan** to ascertain equitable distribution of water, reuse of wastewater, mapping of water bodies and promote healthy competition among the cities /towns.

- **Technology Sub-Mission for Water** to leverage the latest global technologies in the field of water.

- **Information, Education and Communication (IEC) campaign** to spread awareness among the masses about the conservation of water.

Reports and Indices

SIPRI FACTSHEET ON GLOBAL ARMS IMPORTS

Context: New data on international arms transfers was published by the Stockholm International Peace Research Institute (SIPRI).
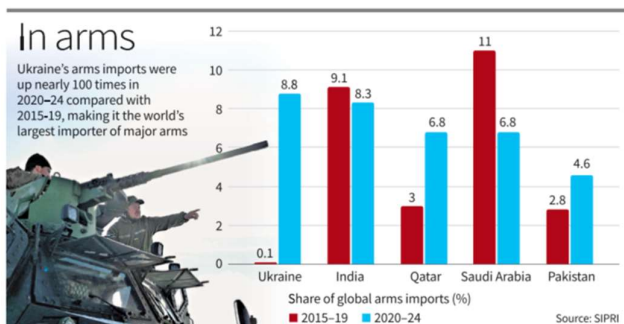
About Global Arms Import trends:

- **Ukraine** became the **world's largest importer of major arms** in the period 2020–24, clocking a **nearly 100-fold rise** in imports compared to 2015-19.
  - o The country received **8.8% of global arms imports** in 2020-24.
  - o It is also the **only European nation among the top 10** arms importers.
- **European arms import overall grew by 155%** between the same periods, as states responded to Russia's invasion of Ukraine and uncertainty over the future of US foreign policy.
- The **United States** further increased its share of global arms exports to **43%,** while **Russia's exports fell** by 64%, accounting for **7.8% of global arms exports**, falling behind **France (9.6%)**, which emerged the **second largest arms exporter** in 2020-24.
- **China dropped out of the list of top 10 arms importers** for the first time since 1990-94, showcasing its expanding domestic industrial base.

- **India** was the **second-largest arms importer**, though the trade figures decreased by 9.3% between 2015-19 and 2020-24.
  - o The country was the **biggest arms export destination for both Russia and France**.
- The largest share of Indian arms imports **(36%)** came from **Russia**.
  - o But the share of Russian imports has **steadily declined** from 72% in 2010-14 to 55% in 2015-19 and now 36%.
- India received the **largest share of French arms exports (28%)** — almost twice the share that went to all European recipients combined (15%).
  - o The second largest recipient of major arms from France was Qatar (9.7%).

STATE OF GLOBAL CLIMATE REPORT 2024

Context: According to the State of Global Climate report 2024 of the World Meteorological Organization, global warming is nearing the 1.5°C Paris Agreement threshold.

Key Findings of the State of Global Climate Report:

- **Current Warming:** Global warming stands at **1.34–1.41°C above pre-industrial levels**, with 19 of the last 20 months surpassing the 1.5°C threshold. Earth could **surpass the 1.5°C threshold by September 2029.**

- **Extreme Weather Events:** In 2024, record displacements from cyclones, floods, and droughts worsened food crises, while heat waves hit East Asia, Southeast Europe, the Mediterranean, West Asia, and the southwestern US.

- **Carbon Dioxide Levels:** In 2023, atmospheric CO_2 reached **151% of pre-industrial levels**, the highest in 800,000 years.

- **Cryosphere Decline:** Arctic sea ice hit record lows for 18 consecutive years, while **Antarctic sea ice saw its 2nd-lowest extent in 2024.**

Irreversible Impacts:

- **Ocean Warming:** 2024 saw the highest ocean heat content in 65 years, with warming rates doubling since 1960. This increase in ocean is attributed to anthropogenic climate drivers such as greenhouse gas (GHG) emissions and changes in land use.

- **Global Sea-Surface Temperatures:** Global sea-surface temperatures (SST) were at a record high in 2024, with several months breaking previous records by significant margins. Exceptional heating was observed in various regions including the eastern North Atlantic, the Gulf of Mexico, the Caribbean, the North Pacific, and large areas of the Southern Ocean.

- **Marine Heatwaves and Ocean Acidification:** The oceans saw an average daily marine heatwave coverage of 32%, well above the previous record of 23% in 2016. At the end of 2024, most of the global ocean between 20° S and 20° N had been in heatwave conditions since Nov 2023. pH levels are declining rapidly, particularly in the Indian, Antarctic, and equatorial Pacific Oceans, with irreversible effects over centuries.

- **Sea Level Rise:** Global mean sea level reached a record high, with rates doubling from 2.1 mm/year (1993–2002) to 4.7 mm/year (2015–2024).

- **Glacier Melt:** 2022–2024 recorded the most negative glacier mass balance, with significant losses in Norway, Sweden, and the Andes Mountains.

About the World Meteorological Organization (WMO):

✓ The WMO is an intergovernmental organisation with a membership of 192 Member States and Territories.

✓ **India is a member** of WMO.

✓ It originated from the International Meteorological Organization (IMO), which was established after the **1873 Vienna International Meteorological Congress**.

✓ Established by the ratification of the **WMO Convention of 1950**, WMO became the **specialized agency of the UN** for meteorology, hydrology and related geophysical sciences.

✓ Headquarters: Geneva, Switzerland.

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Terms in News

PUNCH MISSION

- **NASA** launched the P**olarimetry to Unify the Corona and Heliosphere (PUNCH) mission** on Feb 28, 2025, aboard a SpaceX Falcon 9 rocket.
- PUNCH Mission is a groundbreaking solar mission designed to **study the Sun's corona and solar wind using advanced imaging** techniques.
- It will consist of **4 small satellites operating in Low Earth Orbit** (LEO) for an expected two-year mission.
- Unlike previous missions, PUNCH will use **polarimetr**y (measurement of polarized light) to observe solar phenomena in 3D.
- It allows scientists to **study the origin and evolution of solar winds and Coronal Mass Ejections (CMEs),** both of which impact space weather and Earth's technological systems.

Focus Areas of the PUNCH Mission:

- Study how the Sun's outer corona transforms into the solar wind.
- Observe how CMEs are formed, gain speed, and travel through space.
- Improve space weather forecasting to protect satellites, astronauts, and power grids.

- Provide real-time data to help scientists predict solar storms and geomagnetic disturbances.
- Contribute to NASA's Artemis program by ensuring safe deep-space exploration.

Advanced Imaging Instruments on PUNCH Mision:

- **Narrow Field Imager (NFI):** Captures high-resolution images of the inner corona.
- **Wide Field Imagers (WFIs):** Observe solar wind and CMEs across interplanetary space.
- **STEAM (X-ray spectrometer):** Monitors coronal heating and solar flares.

ONE NATION ONE PORT PROCESS

- The Ministry of Ports, Shipping, and Waterways (MoPSW) has launched the "One Nation, One Port Process" (ONOP) initiative to **standardize and streamline operations across India's major ports.**
- It seeks to **eliminate inefficiencies, reduce documentation, and enhance trade competitiveness** – in order to make India a global maritime hub.

Key Features:

- **Standardized Port Operations:** Uniform documentation, customs, and clearance processes across all ports to improve efficiency.

- **Reduced Documentation:** Container operation documents reduced by 33% (143 to 96); bulk cargo documents cut by 29% (150 to 106).
- **Sagar Ankalan Logistics Port Performance Index (LPPI):** Tracks port efficiency and competitiveness to align with global logistics standards.
- **MAITRI Digital Platform:** Integrates AI and Blockchain for automated trade approvals, supporting Virtual Trade Corridors (VTC) with UAE, BIMSTEC, and ASEAN.
- **Green and Smart Port Infrastructure:** Encourages low-carbon logistics, sustainable shipping, and modernized port facilities.
- **Maritime Development Fund & Shipbuilding Support:** Financial incentives for domestic shipyards.

CALI FUND

- Cali Fund was launched in pursuance of the decisions taken at the 16th Conference of Parties **(COP16) to the UN Convention on Biological Diversity (CBD),** which was held in Colombia in November 2024.
- It aims to **boost biodiversity finance by collecting contributions from businesses that use genetic data from nature** in their products and research.
- It is the first global biodiversity fund under the UN to receive **direct contributions from businesses that benefit from biodiversity.**

- The UN Development Programme **(UNDP)** and the UN Environment Programme (**UNEP)** will be responsible for managing the fund.
- It will **receive money from industries that rely on Digital Sequence Information** (DSI), which includes genetic data from plants, animals, and microorganisms. Companies in pharma, cosmetics, agriculture, and biotechnology will be required to contribute a portion of their revenue.
- The money collected will be used to **support biodiversity conservation projects, help developing countries implement biodiversity action plans, and fund scientific research** to improve genetic data storage & usage.
- At least **50% of the fund's resources will be allocated to indigenous peoples** and local communities, recognizing their role in protecting and maintaining biodiversity.
- The fund is considered a key step toward achieving the **Kunming-Montreal Global Biodiversity Framework (KMGBF)** goal of halting & reversing biodiversity loss by 2030.

CHOLANAIKKAN TRIBE

- The Cholanaikkan are a **particularly vulnerable tribal group (PVTG)** living in the forests of Kerala.
- They are primarily found in the **Nilambur forests (part of Western Ghats) of Malappuram district in Kerala** and are

considered one of the last remaining **hunter-gatherer tribes** in South India.

- They traditionally live in rock shelters and caves called **Kallu Arais.**
- They rely on hunting, and gathering honey, tubers, and wild fruits for sustenance.
- The community speaks a distinct **Dravidian language called Cholanaikkan.**
- They have **minimal contact with the outside world** and depend heavily on forest resources.

HAGUE SERVICE CONVENTION

- The **U.S. Securities and Exchange Commission has sought assistance under the Hague Service Convention** to serve summons on Mr. Gautam Adani in a securities fraud case.
- Hague Service Convention is formally known as the **Convention on the Service Abroad of Judicial and Extrajudicial Documents in Civil or Commercial Matters (1965).**
- It is a multilateral treaty designed to facilitate the efficient and reliable **transmission of legal documents in civil and commercial matters across international borders.**
- It ensures that individuals or entities involved in legal proceedings receive proper notice while also providing proof of service in cross-border cases.
- It is applicable when both the **requesting and receiving countries are signatories.**
- The Convention has been adopted by 84 countries, including **USA, India, the UK, Canada, and most of Europe.**

- Each member state must designate a central authority responsible for receiving, processing, and facilitating service requests from other nations.

Key Objectives of the Hague Service Convention:

- To **establish a standardized process for serving legal documents** in foreign jurisdictions.
- To **ensure that defendants receive timely and actual notice** of judicial proceedings.
- To **prevent delays and procedural challenges** in international litigation.
- To **streamline communication between the judicial systems** of different countries.

MISHTI SCHEME

- The **Mangrove Initiative for Shoreline Habitats & Tangible Incomes (MISHTI)** Scheme aims to increase conservation and expansion of mangrove forests in India.
- The MISHTI scheme facilitates **mangrove plantation** along India's coastline and on salt pan lands.
- The MISHTI scheme provides **financial assistance to states and local communities** for mangrove plantation and rehabilitation.
- Through **convergence of MGNREGS, compensatory afforestation funds (CAMPA) and other sources**, it aims at intensive afforestation of coastal mangrove forests.

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- The scheme promotes the use of **sustainable mangrove management practices.**
- The scheme supports **research on mangrove ecology** and conservation.

💡 According to India State of Forest Report (ISFR) 2023, mangroves in India cover 4985 sq. km spread across 11 States and 2 UTs - this is 0.15% of India's total geographical area. There has been a small decline in mangrove cover since the ISFR 2021. West Bengal accounts for 42.45% of India's mangrove cover, followed by Gujarat at 23.66%, and the Andaman & Nicobar Islands at 12.39%.

PLANETARY PARADE
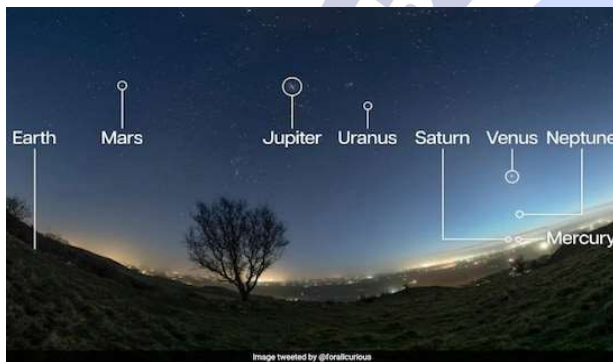
- It refers to a situation when **several planets** in our solar system are **visible in the night sky**, at the same time.
- This planetary meet-up, also **known as a conjunction**, makes the two planets appear close together or even touch in the Earth's night sky.
- This phenomenon is more an illusion of perspective rather than the planets being in a perfect line in space.
- Planets have different motions in the sky. They move at different rates compared to the other stars.
- Not all of them are visible in the sky everyday, but sometimes a position comes about so that many or all the planets are visible at the same time, or within a few hours of each other.

- According to NASA, such events, especially those involving four or more planets, are noteworthy and **do not occur annually.**

EINSTEIN RING
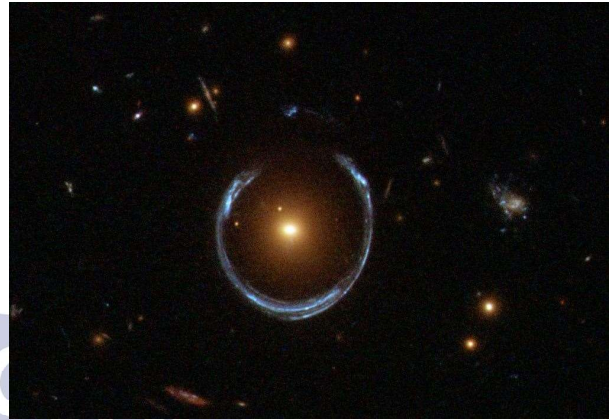
- It is a **ring of light around** a form of **dark matter, galaxy or cluster of galaxies**. It is essentially an **example of gravitational lensing**.
- Einstein rings **are not visible to the naked eye**, and can be observed only through space telescopes such as Euclid.
- In the case of the recently discovered Einstein ring, NGC 6505 was the gravitational lens.
- The nearer galaxy distorted and amplified the light coming from a distant unnamed galaxy, located 4.42 billion light-years away.
- These are named after mathematician and **physicist Albert Einstein**, whose general theory of relativity predicted that light could bend and brighten around objects across the cosmos.
- The first Einstein ring was discovered in 1987, and since then, several more have been discovered.

Significance of Einstein Ring

- These rings **help scientists investigate dark matter**, which has never been detected but is believed to make up 85% of the total matter in the universe.

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- They enable scientists to **learn about distant galaxies,** which otherwise might not be visible.
- They can also **provide information** about the **expansion of the universe** as the space between the Earth and other galaxies — both in the foreground and the background

Gravitational Lensing

- It is a phenomenon which occurs when a **massive celestial body** — such as a galaxy or cluster of galaxies — creates a gravitational field which **distorts and amplifies the light** from distant galaxies that are behind it but in the same line of sight.
- The body causing the light to curve is called a gravitational lens.

'BLUE GHOST' MISSION 1

- **Firefly Aerospace's (USA) Blue Ghost Mission 1 successfully landed on the Moon**, becoming the **second private mission to achieve this feat**.
- Blue Ghost Mission 1 is a private lunar landing mission by Firefly Aerospace under **NASA's Commercial Lunar Payload Services (CLPS) program.**
- It was launched aboard a **SpaceX Falcon 9 Rocket**. The mission is designed to operate for 14 days.

Key Features of Blue Ghost Mission 1:

- **Carries 10 scientific instruments**, including a lunar soil analyzer, a radiation-tolerant computer, and a GPS-based navigation experiment to test satellite navigation on the Moon.
- **Equipped with a high-definition imaging system** to capture a lunar eclipse (March 14, 2024) and lunar sunset (March 16, 2024).
- **Successfully navigated a rocky and cratered surface** using hazard-avoidance technology, slowing from thousands of miles per hour to just two mph before touchdown.

> Intuitive Machines (USA) was the first private company to achieve a lunar landing. Its spacecraft Odysseus reached the Moon on 22nd February 2024.

ORANS

- Orans are **traditional sacred groves found in Rajasthan**. These community forests are preserved and managed by rural communities, often associated with local deities.
- They are **rich in biodiversity**, typically containing water bodies, and have been conserved for centuries. Orans serve as **grazing areas for livestock and are venues for communal gathering**s and festivals.

- They are also vital **habitats for endangered species** like the Great Indian Bustard.
- The Wild Life (Protection) Act, 1972 **empowers the State Government to declare any private or community land as a community reserve** for protecting fauna, flora and traditional or conservation values and practices.
  - But despite this, **most sacred groves in India lack legal recognition** and therefore are not properly conserved.
- India has **over 13,000 documented sacred groves**, with Maharashtra, Jharkhand, West Bengal, Kerala, Tamil Nadu, Meghalaya, Rajasthan having rich abundance of groves.
- In Dec 2024, the **Supreme Court directed the Union Govt. to draft a national policy** for managing sacred groves - emphasizing their ecological, cultural and social significance.

THE WALLACE LINE

The original line, first proposed by Wallace in 1859, delineates flora and fauna of Asia (west of the line) and Australasia (east of the line). It was later modified by TH Huxley to separate the island of Palawan from the Phillipines.

- It is a bio-geographical boundary separating the eco-zones of Asia and Australia.

- It was identified by British explorer **Alfred Russel Wallace** in **1863** during his explorations.
- It is an **imaginary line that intersects the Lombok Strait** between the Indonesian islands of **Bali** and Lombok to the south, and extends north through the **Makassar Strait** between Kalimantan (Borneo) and Sulawesi.

Formation

- Result of **Australia's drift from Antarctica** and subsequent collision with Asia around **35 million years ago**.
- **Climate shifts** led to cooler, drier Australia and tropical Asia.
- This collision created a **deep-water channel** that still acts as a **natural barrier** for species migration.
- During the **Pleistocene epoch**, lower sea levels exposed land bridges.
- **Deep waters** between Asia and Australia prevented species migration, maintaining the boundary.

Features

- Divides species with **distinct evolutionary histories**.
- **Asiatic species** (tigers, elephants) are found to the west; **Australian fauna** (kangaroos, marsupials) dominate the east.
- Despite their geographical proximity, **these species evolved separately**.

BIODIVERSITY LEAKAGE

- Biodiversity leakage is a phenomenon where nature-damaging human activities are displaced due to the protection or restoration of land areas.
- **Biodiversity leakage** occurs when conservation efforts in one area lead to environmental harm elsewhere.

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- This happens due to the displacement of activities like deforestation, agriculture, or industrial operations into unprotected regions.
- For example, if a forest is protected, logging companies may shift their operations to another vulnerable area.

BOLLGARD-3

About Bollgard-3

- It is a new pest-resistant **genetically-modified (GM) cotton variety.**
- It was **developed by Monsanto** more than a decade ago, and shows remarkable resistance to pests.
- It contains three **Bt proteins Cry1Ac, Cry2Ab and Vip3A** that cause insect death by disrupting their normal gut function. This in turn allows for the growth of a healthier cotton crop, and increases yield.
- Farmers are demanding the introduction of Bollgard-3, which is particularly **effective against lepidopteran pests like pink bollworm.**
- **Bollgard-1** was a Monsanto-developed Bt cotton introduced in India in 2002, followed by **Bollgard-2** in 2006. The latter remains prevalent today.
- And although these do have some pest-repellent properties, they are not effective against the whitefly and the pink bollworm, which arrived in Punjab in 2015-16 and 2018-19 respectively.

Bacillus Thuringiensis

- **Bacillus thuringiensis (Bt)** is a soil-dwelling bacterium with potent insecticidal properties.
- In the past few decades, researchers have successfully inserted certain genes from Bt in various crops, like cotton, providing these with insect-repellent properties.

DRAGON COPILOT

- It is the new **healthcare AI tool** which is being offered as part of Microsoft Cloud for Healthcare.
- It is designed to help doctors and healthcare professionals **transcribe clinical notes and draft paperwork** as well as quickly search for information from medical sources.

Features:

- It harnesses the natural language voice dictation and ambient listening technology developed by AI voice company Nuance.
- It is built on top of existing tools such as **Dragon Medical One (DMO) and DAX** rolled out by speech recognition company **Nuance Communications**.
- It can be used to draft memos and notes in a personalized style and format.
- Apart from documentation work, the AI assistant allows clinicians to **search for general-purpose medical information** from trusted sources.
- It can also be used to **automate key tasks** such as conversational orders, note and clinical evidence summaries, referral letters, and after-visit summaries, in one centralised workspace.
- It is accessible through a mobile app, browser or desktop, and it integrates directly with several different electronic health records.

EXTRADITION
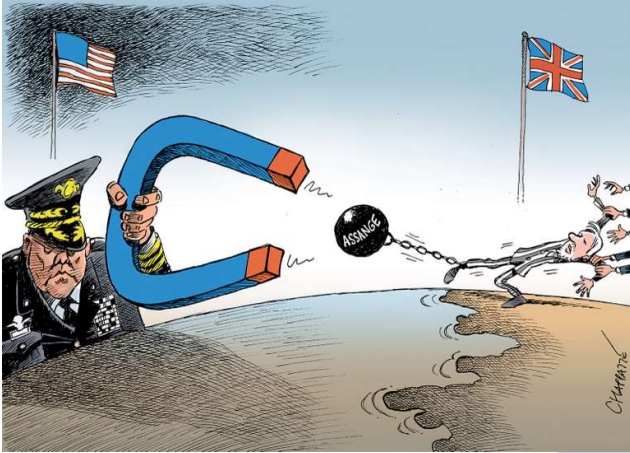
- Extradition is the process by which one state, upon the request of another, affects the **return of a person for trial for a crime punishable by the laws of the requesting state** and committed outside the state of refuge.
- The Supreme Court defined extradition as the **delivery on the part of one State to another of those whom it is desired to deal with for crimes of which they have been accused or convicted and are justifiable in the Courts of the other State**.
- Extraditable persons include those charged with a crime but not yet tried, those tried and convicted who have escaped custody, and those convicted in absentia.

Extradition Law in India:

- In India, the extradition of a fugitive criminal is governed under the **Indian Extradition Act, 1962**.
- This is for both extraditing persons to India and from India to foreign countries.
- The basis of the extradition could be a treaty between India and another country.
- At present India has an Extradition treaty with **more than 40 countries** and Extradition agreement with 11 countries.

Extradition Treaty:

- **Section 2(d)** of The Indian Extradition Act 1962 **defines an 'Extradition Treaty'** as a Treaty, Agreement or Arrangement made by India with a Foreign State, relating to the extradition of fugitive criminals which extends to and is binding on India.
- Extradition treaties are traditionally bilateral in character.

Principles Followed:

- The extradition applies only to such offences which are **mentioned in the treaty**.
- It applies the principle of **dual criminality** which means that the offence ought to be an offence in the national laws of requesting as well as requested country.
- The requested country must be satisfied that there is **a prima facie case** made against the offender.
- The extradition should be made only for the offence for which extradition was requested.
- The accused must be provided with a **fair trial**.

Nodal Authority: Consular, Passport and Visa Division of the **Ministry of External Affairs**, administers the Extradition Act and it processes incoming and outgoing Extradition Requests.

Implementation:

- Extradition can be initiated in the case of under-investigation, under-trial and convicted criminals.
- In cases under investigation, abundant precautions have to be exercised by the law enforcement agency to ensure that it is in possession of prima facie evidence to sustain the allegation before the Courts of Law in the Foreign State.

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WORLD SPICE ORGANIZATION

- It is a not-for-profit organisation established in 2011 in Kochi, Kerala, the spice capital of India.

- It is registered under the Travancore Cochin Literary, Scientific, and Charitable Societies Act, 1956.

- **Objective**: Facilitating the spice industry in dealing with issues of **"Food Safety & Sustainability".**

- WSO seeks to achieve its objectives by involving all its stakeholders—the general public, the industry, academia, and the end-users.

- WSO **undertakes social responsibility projects** beneficial for the industry.

- WSO is **involved in initiatives promoting sustainability and biodiversity** in **collaboration with** prominent national and international **organizations like Spices Board** India, **Indian Institute of Spice Research (IISR),** Rainforest Alliance, GIZ (Germany), and IDH - The Sustainable Trade Initiative (Netherlands).

- WSO also **interacts with global spice associations** like the American Spice Trade Association (ASTA), European Spice Association (ESA), International Pepper Community (IPC), etc **to resolve issues** facing the spice industry.

- WSO **takes part in** the various **national and international standard-setting processes pertaining to spices,** such as **FSSAI, BIS, ISO, and Codex,** in order to ensure that the interests of the industry are considered while setting the standards.

AI KOSHA

- The **AI Kosha platform** has been launched to address the bottlenecks in AI model development in terms of availability of high-quality datasets.

Key Features of AI Kosha:

- **316 datasets at launch**, focusing on AI model validation and language translation tools for Indian languages.

- Data sourced from government initiatives, including Telangana's open data platform, health records, 2011 Census data, satellite imagery, and pollution data.

- Part of the **IndiaAI Dataset Platform**, which is one of the seven pillars of the IndiaAI Mission.

- Aimed at **reducing biases and improving AI model accuracy** across various domains such as healthcare, agriculture, and traffic management.

- By **aggregating government and publicly available data**, AI Kosha aims to catalyse innovation and empower startups to develop AI solutions with locally sourced, high-quality datasets.

SPACEX STARSHIP

- Starship is a two-stage fully reusable super heavy-lift launch vehicle under development by American aerospace company **SpaceX**.

- Starship is the collective name for a two-component system consisting of the **Starship spacecraft** (which carries the crew and cargo) and the **Super Heavy rocket**.

  o **Super Heavy:** It is the first stage, or booster, of the Starship launch system. Powered by 33 Raptor engines using sub-cooled liquid methane (CH4) and liquid oxygen (LOX).

- It is the world's most powerful launch vehicle ever developed, capable of carrying up to 150 metric tonnes fully reusable and 250 metric tonnes expendable.

- The vehicle comes in several different configurations, offers an integrated payload section and is capable of carrying crew and cargo to Earth orbit, the Moon, Mars and beyond.

- It is also capable of point-to-point transport on Earth, enabling travel to anywhere in the world in one hour or less.

- Starship is powered by six engines, three Raptor engines, and three Raptor Vacuum (RVac) engines, which are designed for use in the vacuum of space.

  o **Raptor engine:** It is a reusable methane-oxygen staged-combustion engine that powers the Starship system and has twice the thrust of the Falcon 9 Merlin engine.

What is Mechazilla?

- It is the nickname for the large 400-ft rocket-catching structure at SpaceX's Starbase.

- It features two enormous mechanical arms, often referred to as "chopsticks." These

arms are designed to catch the Super Heavy booster in mid-air as it returns to Earth.

INSIDER TRADING

- Insider trading, also known as **insider dealing**, is the malpractice of **selling or buying a company's securities by the insiders of a company.**

- **Who is an insider?**
  o The Securities and Exchange Board of India (SEBI) defines an 'insider' as **someone who has access to price-sensitive information** about a particular **company's shares or securities.**
  o An insider can be anyone who has been **associated with the company** in some way **during the six months preceding the insider trade.**
  o That person could be an **employee, a director, relative, banker or a legal counsel** to the company, or even **an official of the stock exchanges,** trustees or employees of an asset management company (AMC) that worked with the company.
  o Insiders, who have access to confidential and exclusive information about the issuer of a particular security or stock, **benefit from buying or selling undisclosed securities before they fluctuate in price.**

- **What is Unpublished Price Sensitive Information (UPSI)?**

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- o UPSI refers to a piece of **exclusive information related to a firm's** stock prices, quarterly results, acquisition deals, mergers, or any kind of sensitive activities that have **not been shared with the public at large.**
- o When insiders are able to access the UPSI, they illegally conduct trade dealings for personal gains.
- Insider trading is one of the most serious malpractices that exists in the market.
- In India, insider trades are **regulated by the SEBI under the Insider Trading Regulations, 2015.**
  - o To prevent such acts of insider trading and to promote fair trading in the market for the interest of common investors, **SEBI has prohibited the firms from purchasing their own shares from the secondary market.**
  - o SEBI can **impose fines and prohibit individuals or entities from trading** in the capital market **if found in violation of rules.**
- For example, a company director informs his friend about a yet-to-be-declared deal, and the latter disseminates that information to his colleagues, who then buy that company's stocks.
  - o Then, the manager, his friend, and his colleagues are liable to be booked by SEBI for violation of PTI (Prohibition of Insider Trading) Regulations.

BRAHMASTRA MISSILE

Notional Representation

About Brahmastra Missile

- This weapon, named the **Long Range Anti-Ship Missile (LRAShM),** is a **hypersonic glide missile.**
- It was developed by the Defence Research and Development Organisation (**DRDO**).
- It **outperforms** similar missiles like **China's DF-17** in terms of range and technology.

Features

- With a **range of 1,500 km**, this missile can obliterate an enemy ship or warship within 7 to 8 minutes of being launched.
- It can be **deployed from both land and sea,** offering versatility in combat scenarios
- This missile **operates at 10 Mach**, making it 10 times faster than the speed of sound. This allows it to travel 3.37 km in just one second.
- The incorporation of **special heat-resistant materials** ensures the missile can **withstand extreme temperatures** without disintegrating during flight, setting a new benchmark in **scramjet and glide technology.**

GUM ARABIC

- It is a **dried, water-soluble exudate** that **comes primarily from two species of acacia**, Acacia senegal and A. seyal.

- **Distribution**:

  o The trees are **native to North Africa** and grow mainly in the s**ub-Saharan or Sahel zone of Africa** and **also in Australia, India, and South America.**

  o A. senegal is found in some parts of India, mainly in the dry rocky hills of **south east Punjab,** in the **northern Aravalli hills,** and in other drier parts of **Rajasthan and Gujarat.**

- Major producing countries: Cameroon, Chad, Mali, Nigeria, and Sudan (market share of about 70%).

- Humans have in fact used gum arabic for thousands of years; one of its e**arliest known uses was as an embalming agent in ancient Egypt.**

- Gum Arabic has **numerous applications,** particularly in the **food industry** and in areas such as **ceramics, painting,** photography, and printmaking.

Gum Arabic Properties

- It is a **neutral or slightly acidic salt** of a complex **polysaccharide** containing calcium, magnesium, and potassium cations.

- It is **non-toxic, odourless**, and has a **bland taste,** and it does not affect the odour, colour or taste of the system in which it is used.

- It is somewhat **yellowish** in colour.

- It is **insoluble in oils** and in most **organic solvents**, but usually d**issolves completely in hot or cold water, forming a clear, mucilaginous solution.**

- It yields L-arabinose, L-rhamnose, D-galactose, and D-glucuronic acid after hydrolysis.

SEMI-CRYOGENIC ENGINE

- A semi-cryogenic engine (SCE) is a liquid rocket engine that uses liquid oxygen (LOX) as an oxidizer and refined kerosene as fuel.

- The Indian Space Research Organisation (ISRO) is developing a semi-cryogenic engine with a thrust of 2000 kN to power the booster stages of future heavy-lift launch vehicles. This engine utilizes a combination of liquid oxygen (LOX) and refined kerosene (RP-1) as propellants.

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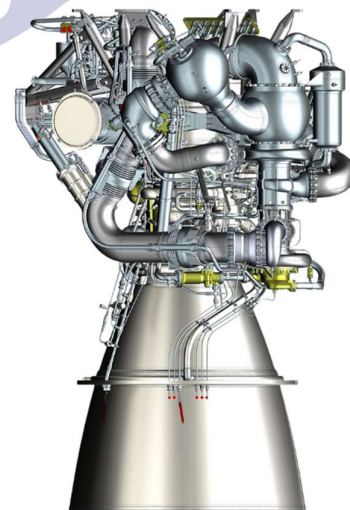
- The semi-cryogenic engine offers several advantages over traditional cryogenic engines, including:

    o **Higher Density Impulse:** The LOX-kerosene combination provides a higher density impulse compared to LOX-liquid hydrogen, resulting in improved performance.

    o **Cost-Effectiveness:** Kerosene is more cost-effective and easier to handle than liquid hydrogen, reducing overall mission costs.

    o **Operational Efficiency:** Kerosene can be stored at ambient temperatures, simplifying storage and handling requirements.

- The development of this engine is expected to enhance the payload capacity of ISRO's existing launch vehicles, such as the LVM3, and is also planned for use in future launch vehicles like the Next Generation Launch Vehicle (NGLV).

**Difference Between Semi-Cryogenic Engine and Cryogenic Engine**

- Unlike a cryogenic engine, a semi-cryogenic engine uses refined kerosene instead of liquid hydrogen. The liquid oxygen is used as an oxidiser.

- "The advantage of using a semi-cryogenic engine is that it requires refined kerosene, which is lighter than liquid fuel and can be stored at a normal temperature.

THE ANTARCTIC CIRCUMPOLAR CURRENT (ACC)

- The Antarctic Circumpolar Current (ACC) is the strongest ocean current globally, flowing clockwise (from west to east) around Antarctica and connecting the Atlantic, Pacific, and Indian Oceans.

- As the only ocean current connecting the Atlantic, Pacific, and Indian Oceans, the ACC is five times stronger than the Gulf Stream and over 100 times more powerful than the Amazon River.

    o The Antarctic Circumpolar Current separates the Southern Ocean from the Atlantic, Pacific, and Indian oceans at 60° S latitude, which roughly coincides with the current's southern boundary.
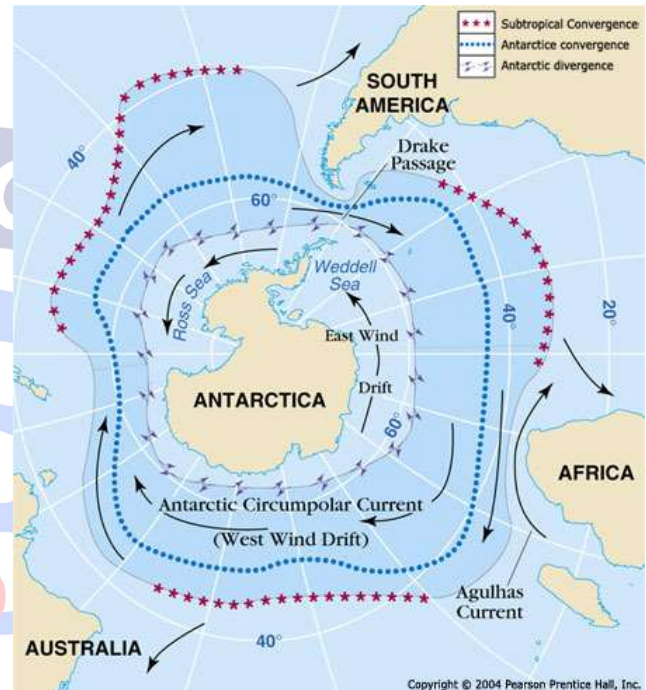
- It plays a critical role in regulating Earth's climate by distributing heat, water, and nutrients worldwide. Beyond climate regulation, the ACC acts as a natural barrier, preventing non-native marine species from reaching Antarctica.

- However, the rapid melting of Antarctic ice due to rising global temperatures is introducing large volumes of freshwater into the ocean, which can disrupt the ACC's flow.

Potential Impacts of ACC Slowdown

- **Climate Regulation:** A slowdown of the ACC could lead to more extreme climate events and alter weather patterns globally.

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- **Marine Ecosystems:** Changes in the ACC can disrupt nutrient distribution, affecting marine biodiversity and fisheries.

- **Carbon Sequestration:** The ocean's ability to absorb carbon dioxide may decrease, potentially accelerating global warming.

PARVATMALA PROGRAMME

- The National Ropeways Development Programme, known as the 'Parvatmala Pariyojana', was **announced in the 2022-23 Union Budget.**

- Under the Parvatmala Pariyojana, the **Ministry of Road Transport and Highways envisages the** provision of safe, economical, convenient, efficient, **self-sustainable & world-class ropeway infrastructure** providing first- and last-mile connectivity to improve logistics efficiency in India.

- The programme aims to improve connectivity and convenience **for commuters in hilly regions and to decongest urban areas** where the conventional mode of transport is saturated or not feasible.

- The aim is to improve connectivity and convenience for commuters, besides **promoting tourism.**

- For the development of ropeway infrastructure in dense forests, in urban areas, and in difficult terrains, the **ministry is collaborating with various state governments/UT administrations.**

- The Centre has identified more than 200 projects at a cost of Rs 1.25 lakh crore under the programme.

- The projects are being **implemented through Public-Private Partnership** with around **60% contribution support by the Government of India.**

- **Implementing Agency:**

  o The **National Highways Logistics Management Limited (NHLML)** has been mandated by the ministry to implement the project.

  o It is a **100% owned SPV of the National Highways Authority of India** (NHAI).

VIATINA 19

- Recently, an **Ongole cow named Viatina-19** was sold for a record-breaking 4.38 million USD (approximately INR 40 crore) in Brazil's Minas Gerais.

- **Viatina-19** is a **Nelore breed cow (Ongole cattle)**, renowned for its exceptional genetic qualities.

- The Nelore breed, **originating from India and now prevalent in Brazil**, is prized for its **adaptability and meat quality**.
- They are known for their unique genetic traits, including **exceptional physical strength, heat resistance, and superior muscular structure**.
- These qualities make them highly desirable for dairy.
- The Nelore breed is well known for its **ability to adapt to tropical climates and disease resistance**.
- Due to this, Viatina-19's embryos are in high demand globally for breeding programs.
- The Nelore breed, which makes up the **majority of Brazil's cattle stock**, is **primarily raised for meat**.
- However, in India, the original home of the Ongoles, the **breed is facing the threat of extinction**, its numbers halving from 15 lakh in 1944 to 6.34 lakh in the 2019 Livestock Census.
- The price of the cattle, too, is relatively low in India – Rs 1 lakh for a cow and Rs 10 to 15 lakh for a prized bull.

SHINGLES DISEASE

- Shingles (**herpes zoster)** is a **viral infection** that causes an outbreak of a **painful rash or blisters on the skin.**
- The rash most often appears as a **band of rashes or blisters in one area** of your body.
- Shingles **can occur anywhere** on your body.
- The risk of shingles goes up as you get older and it is most **common in people over age 50.**
- **What Causes Shingles?**
    - It's caused by the **varicella-zoster virus,** which is the **same virus that causes chickenpox.**

    - **When you have chickenpox** as a child, your **body fights off** the varicella-zoster virus and the **physical signs of chickenpox fade away,** but **the virus** always **remains in your body.**

    - **In adulthood,** sometimes the **virus becomes active again.**

    - This time, the varicella-zoster virus makes its second appearance **in the form of shingles.**

- **Is Shingles Contagious?**

    - Shingles is **not contagious,** but the **virus can be spread to someone who has never had chickenpox.**

    - This will **cause chickenpox, not shingles.**

- **Symptoms**:

    - The symptoms of shingles can include **pain, itching, tingling,** and numbness, as well as **fever, headache,** chills, and fatigue.

    - Shingles **isn't life-threatening**. But it **can be very painful.**

    - The most **common complication is postherpetic neuralgia.** This is a painful condition that causes shingles pain for a long time after your blisters have cleared.

- **Prevention:** There is a **vaccine called Shingrix** available, which helps in preventing shingles and its complications.

- **Treatment**: There is **no cure** for shingles. **Antiviral medications** can **reduce the severity** and duration of shingles, especially if started early.

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KOCH-RAJBONGSHIS

About Koch-Rajbongshis

- Koch Rajbongshi is an **ancient tribe** originally **from the ancient Koch kingdom.**

- The Rajbongshi tribe is referred to as Koch Rajbongshi, or Rajbanshi, or Rajvanshi.

- The word "Rajbongshi" literally means "royal community".

- Considered as **indigenous people of South Asia**, at present they live in lower Nepal, **Northern Bengal, North Bihar, Northern Bangladesh, the whole of Assam, parts of Meghalaya, and Bhutan.**

- These modern g**eographical areas were once part of the Kamata kingdom ruled by the Koches** for many centuries.

- The community is variously designated as **OBC (Assam), SC (Bengal), and ST (Meghalaya).**

- **Language**:
    - The Rajbongshi/**Rajbanshi language** is **spoken by one crore people**, according to a 2001 census.
    - It has a **complete grammar.**

- **Religion and Beliefs:**
    - They are **largely Hindus** with lots of their own deities and rituals.
    - **A large section** of Koch Rajbanshi became **followers of Islam,** and the present Muslims of North Bengal, West Assam and Northern Bangladesh are of Koch Rajbanshi origin.
    - There are **also Christian and Buddhist Koch Rajbanshis.**

- The **primary livelihood** of the tribe is **agriculture and farming.** They live very close to nature because of the fact

that **primitively they were 'Animist'** and the same significance is still prevailing among the tribe.

LOSS AND DAMAGE FUND

About Loss and Damage Fund

- **Definition:** Loss and damage refer to the negative consequences that arise from the unavoidable risks of climate change, like rising sea levels, prolonged heatwaves, desertification, the acidification of the sea and extreme events, such as bushfires, species extinction and crop failures.

- **Establishment:** It was established at the 2022 UNFCCC Conference (COP27) in Egypt, to provide financial support to regions suffering both economic and non-economic losses caused by climate change.

- Developing countries, particularly small island states that face the greatest threats from climate impacts, had been demanding financial assistance in case of climate-related disasters, arguing that they were having to suffer due to a problem created by rich and developed countries.

- About $750 million has so far been promised for the fund, of which the US has contributed $17.5 million. The US, in fact, is one of the very few countries to have already transferred its committed amount to the Fund.

- The LDF is overseen by a Governing Board that determines how the fund's resources

are disbursed, with the World Bank serving as the interim trustee tasked with hosting the fund for four years.

Paris Agreement

- The Paris Agreement is an international accord that was adopted by nearly every country in 2015 to address climate change and its adverse effects.

- Its primary goal is to substantially reduce greenhouse gas (GHG) emissions in a bid to limit global warming in this century to "well below" 2 degrees Celsius above pre-industrial levels while pursuing the means to curb warming to 1.5 degrees.

- The agreement mentions the safer limit of 1.5 degrees based on a fact-finding report which found that breaching the threshold could lead to "some regions and vulnerable ecosystems" facing high risks, over an extended, decades-long period.

- The treaty also requires all Parties (countries which have joined the agreement) to state every five years what they are doing to tackle climate change — what is known as their nationally determined contribution (NDC).

PONZI SCHEME

About Ponzi Scheme

- A Ponzi scheme is an investment scam that pays early investors with money taken from later investors to create an illusion of big profits. A Ponzi scheme promises a high rate of return with little risk to the investor.

- **Origin:** The Ponzi scheme gets its name from a swindler named Charles Ponzi, who in 1920 became a millionaire by promoting a nonexistent investing opportunity.

Working:

- It relies on word-of-mouth, as new investors hear about the big returns earned by early investors.

- Inevitably, the scheme collapses when the flow of new money slows, making it impossible to keep up the payments of alleged profits.

- A Ponzi scheme is similar to a pyramid scheme in that both use new investors' funds to pay earlier backers.

- A pyramid scheme usually relies on rewarding early participants to recruit more participants but collapses when the supply of potential participants dwindles.

Notable Ponzi Scams in India:

- Saradha Scam (2013): A multi-crore chit fund scam in West Bengal that defrauded lakhs of investors.
- Rose Valley Scam: A larger scam than Saradha, involving over Rs 15,000 crore.
- SpeakAsia (2011): A pyramid-like scheme posing as an online survey business.
- PACL (Pearl Agro Corporation Limited) Scam: Collected Rs 49,100 crore from investors under the guise of land investments.

Safeguards against Ponzi Schemes in India

- Ponzi schemes are banned under the Prize Chit and Money Circulation (Banning) Act, 1978, a Central Act enforced by State governments.

- Additionally, the Unregulated Deposit Schemes Act, 2019 explicitly bans Ponzi

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schemes, further strengthening legal action against such frauds.

- These are also dealt with by the Enforcement Directorate under the Prevention of Money Laundering Act, 2002.

Q-COMMERCE

- Q-commerce or **quick commerce** is a subclass of e-commerce that entails **rapid delivery**, typically in 10 to 20 minutes, **of products to the customer's doorstep**.
- This is facilitated by an **elaborate network of dark stores** and/or distribution centres.
  - **Dark stores** refer to warehouses used by the platforms solely to fulfil online orders, with no in-person shopping.
- The Indian quick commerce market is presently valued at $3.34 billion and is expected to reach $9.95 billion by 2029.
- The industry grew 76% YoY in FY 2024.

KHANJAR-XII EXERCISE

- It is a **bilateral military exercise between India and Kyrgyzstan.**

- It has been started since 2011 and both nations are hosting it alternately.

- The **Indian contingent** is represented by **troops from the Parachute Regiment (Special Forces)**, while the **Kyrgyzstan contingent** consists of **the Kyrgyz Scorpion Brigade**.

- **Aim:** To **exchange experiences and best practices in Counter-Terrorism and Special Forces Operations** in both **urban and high-altitude mountainous terrains**.

- **Focus:** The exercise focuses on **advanced Special Forces training**, including **sniping techniques, complex building intervention, and mountain warfare skills**.

- Alongside military training, the exercise will also feature **cultural exchanges**, including the **celebration of the Kyrgyz festival Nowruz**, fostering deeper ties between the two nations.

KUKI TRIBE

- They are an ethnic group including multiple diverse tribes originally inhabiting the Northeastern States of India, including Manipur, Mizoram and Assam; parts of Burma (now Myanmar), and Sylhet district and Chittagong hill tracts of Bangladesh.

- The **Chin people of Myanmar and the Mizo people of Mizoram** are kindred tribes of the Kukis and are collectively known as the Zo people.

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- Kuki is not a term coined by the ethnic group itself, the tribes associated with it came to be generically called Kuki under the colonial rule, and were further divided by the British into 'old Kukis' and 'new Kukis'.
- They have a rich cultural heritage, with institutions like Sawm and Lawm playing significant roles in their society.
  - Sawm is a community center for boys where they learn under the guidance of elders, while Lawm is a youth club that fosters social activities and practical skills
- The Kukis traditionally engaged in **shifting or Jhum cultivation** in the forested hills, which allowed them to expand their settlements through the wooded areas over generations.
- Their expansionist land ownership patterns due to Jhum cultivation put them at odds with the Nagas, who practised territorial agriculture, and the Meiteis, who lived in the cultivated valley areas.
- Some fifty tribes of Kuki peoples in India are recognised as scheduled tribes in India, based on the dialect spoken by that particular Kuki community as well as their region of origin.

INDIAN CYBER CRIME COORDINATION CENTRE

- I4C has been established under the **Ministry of Home Affairs (**MHA) to deal with cybercrime in the country in a coordinated and comprehensive manner.

- The I4C focuses on **tackling issues related to cybercrime for citizens**, including **improving coordination between** various **Law Enforcement Agencies** (LEAs) and stakeholders.
- The centre is located in **New Delhi.**

Functions:

- To act as a nodal point in the fight against cybercrime.
- **Identify the research problems and needs of LEAs** and take up R&D activities in developing new technologies and forensic tools in collaboration with academia/research institutes within India and abroad.
- To **prevent misuse of cyberspace** for furthering the cause of extremist and terrorist groups.
- **Suggest amendments**, if required, **in cyber laws** to keep pace with fast changing technologies and international cooperation.
- To **coordinate all activities related to the implementation of Mutual Legal Assistance Treaties (MLAT)** with other countries related to cybercrimes in consultation with the concerned nodal authority in MHA.

Components of I4C:

- **National Cybercrime Threat Analytics Unit (TAU):** For reporting threats pertaining to cybercrimes at regular intervals.
- **National Cybercrime Reporting Portal (NCRP):** To report various cybercrime complaints by citizens at all India levels on a common platform on a 24x7 basis from "anywhere, anytime".
- **National Cybercrime Training Centre (NCTC):** To impart training to government officials, especially state law enforcement agencies.
- **National Cybercrime Research and Innovation Centre:** To carry out research for

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the development of indigenous tools for the prevention of cybercrimes.

- **Platform for Joint Cyber Crime Coordination Team:** For coordination, sharing of modus operandi of cybercrimes, data/information among states/UTs LEAs.
- **Cybercrime Ecosystem Management Unit:** For creating mass awareness in cyber hygiene for prevention of cybercrimes.
- **National Cybercrime Forensic Laboratory (Investigation) Ecosystem**: For helping LEAs in cyber forensics investigation.

STARLINK
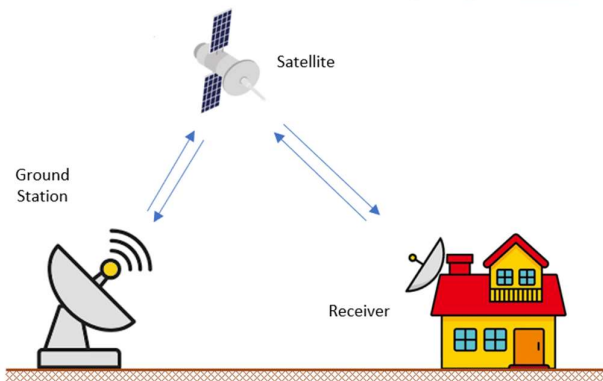
- It is a SpaceX project, launched in 2019, to build a broadband network with a cluster of thousands of orbiting satellites.
- The goal of the project is to create a **low-cost, satellite-based broadband network** that can provide global internet access.
- The Starlink satellites will be placed in an altitude range between 350 km and 1,200 km in **Low Earth Orbit (LEO).**
- Reduced latency between a user seeking data and the server transmitting that data is the key benefit of placing satellites in LEO for space-based Internet.
- It can deliver internet to remote parts of world, where traditional ways (fibre-optic cables) has failed to deliver internet.

GOLDEN TRIANGLE

- The Golden Triangle is a **region in Southeast Asia** that encompasses parts of **Myanmar, Laos, and Thailand**.
- It is one of the world's largest producers of **opium and heroin,** with most of the opium produced in the region being refined into heroin and trafficked to other parts of the world.
- The Golden Triangle has been a major source of heroin for several decades, and drug trafficking from this region continues to be a significant problem.

HANTAVIRUS

- Hantavirus is a **family of viruses** carried by rodents that cause **severe illnesses** in humans. The two primary diseases it causes are:

1. **Hantavirus Pulmonary Syndrome (HPS)** – A **fatal respiratory illness** common in the **Americas**.

2. **Hemorrhagic Fever with Renal Syndrome (HFRS)** – Affects the **kidneys and causes internal bleeding**, mostly found in **Asia and Europe**.

- Hantavirus spreads through **contact with infected rodent waste**, primarily via:

   o **Inhalation (Aerosolization)** – Breathing in airborne particles from **rodent urine, droppings, or saliva**.

   o **Direct Contact** – Touching contaminated surfaces and then touching the **eyes, nose, or mouth**.

   o **Open Wounds** – Virus entering through **cuts or scratches**.

   o **Rodent Bites** (Rare).

   o **Human-to-Human Transmission** – Extremely rare, except for Andes virus in South America.

Hantavirus Pulmonary Syndrome

- It is a **rare infectious disease** that begins with **flu-like symptoms** and progresses rapidly to more severe disease.

- It can **lead to life-threatening lung and heart problems**.

- The disease is also called **hantavirus cardiopulmonary syndrome.**

- Several strains of the hantavirus can cause hantavirus pulmonary syndrome.

- **Symptoms**:

   o Symptoms often start with fatigue, fever, and muscle aches, followed by headaches, dizziness, chills, and abdominal issues.

   o **If respiratory symptoms develop,** the **mortality rate is a**pproximately **38%.**

- **Treatment:** There is no specific treatment for hantavirus infection, but early medical care can help if serious disease develops.

SPADEX MISSION

- SpaDeX (Space Docking Experiment) is a technology demonstrator mission developed by the ISRO to showcase in-space docking technology.

- This mission aims to demonstrate the ability to **rendezvous, dock, and undock two small spacecraft,** marking a significant advancement in India's space capabilities.

- The primary objective of the SpaDeX mission is to **develop and demonstrate the technology needed for rendezvous, docking and undocking of two small spacecraft**.

- **Secondary objectives include:**

   o Demonstration of the transfer of electric power between the docked spacecraft, which is essential for future applications such as in-space robotics,

   o Composite spacecraft control, and

   o Payload operations after undocking.

- Two small spacecraft- **SDX01 (the Chaser) and SDX02 (the Target)** are be docked in a **476-km low-Earth circular orbit.**

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- **Launch Vehicle:** PSLV- C60

- The indigenous technology used for this mission is called the **"Bharatiya Docking System".**

- **Significance:**

  - It makes India the **fourth country after USA, Russia and China in the world to achieve the feat.**

  - SpaDEx mission is expected to be a stepping stone for India's future endeavours in space exploration which include getting rocks and soil from the moon on Earth, the proposed Bharatiya Antariksha Station and landing an astronaut on the lunar surface.

S.A.F.E. INITIATIVE

- **NITI Aayog** has proposed a set of policy interventions to enable the creation of **mega workers' accommodations near factories under its S.A.F.E (Site Adjacent Factory Employee) Initiative**.

- It aims to provide affordable dormitory-style housing for workers near industrial areas, especially migrant laborers, including women.

- The housing will **include essential amenities** like water, electricity, and sanitation, improving workers' living conditions and enhancing the growth of manufacturing in India.

Key Recommendations:

- **Tax & GST Benefits:** Reclassification for tax exemptions to make the initiative financially viable.

- **Zoning Laws:** Amendments for mixed-use developments to integrate worker housing.

- **Viability Gap Funding (VGF):** 30-40% of project cost as financial support.

- **Environmental Clearances:** Streamlining for faster approvals.

- **Financial Support:** Public-private partnerships to reduce costs.

MYCELIUM BRICKS
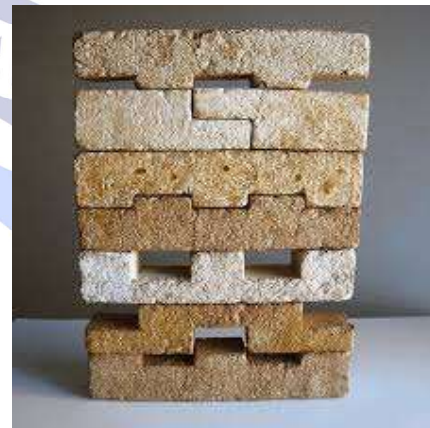
- In the face of climate change, the **construction industry is seeking low-carbon alternatives,** and mycelium bricks have emerged as a promising innovation.

  - **Mycelium is the root-like structure of fungi,** consisting of a network of fine, thread-like filaments. It plays a key role in decomposing organic matter and nutrient cycling in ecosystems,

- **Mycelium Bricks are created from fungal spores, plant husk, and sawdust.** They form a lightweight, fibrous structure with a low environmental impact compared to traditional fired clay bricks.

- They are **biodegradable, fire-resistant, lightweight, and good heat insulators** – thus making them suitable for interior paneling, filters, and electronics.

- **Challenges to Adoption:** These bricks have low load-bearing capacity, high moisture absorption, and a short lifespan due to biodegradability and vulnerability to termites, making them less durable than concrete.
- **Tropical weather conditions, high humidity, and lack of proper infra** in India make its manufacturing expensive and impractical as of now.

RAISINA DIALOGUE

- The 10th annual Raisina Dialogue is scheduled to be held in New Delhi from March 17th to 19th.
- It is an **annual conference on geo-politics & geo-economic**s, which aims to address the most challenging issues faced by the world.
- It is a **component of India's "intelligence diplomacy,"** which, though not prominently featured in the public eye, plays a crucial role in the national security framework.
- The conference **takes place in New Delhi** and is attended by people from political, business, media, and civil society backgrounds.
- It is structured as a multi-stakeholder, cross-sectoral discussion, **involving heads of state, cabinet ministers and govt officials**, who are joined by thought leaders from the **private sector, media and academia.**
- Delhi-based think tank **Observer Research Foundation** (ORF), along with the **Ministry of External Affairs**, hosts the conference.

FIVE EYES ALLIANCE
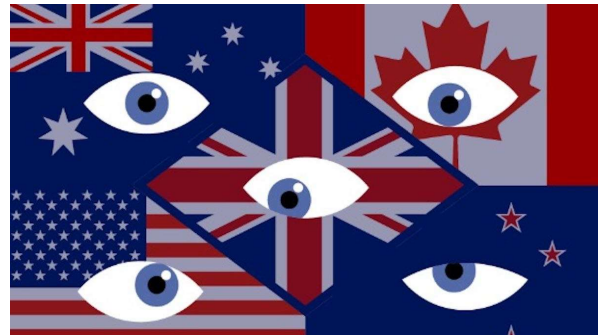
- The intelligence chiefs of the Five Eyes countries' are in New Delhi to attend the global intelligence chiefs' conference hosted by India.
- The Five Eyes Alliance refers to an intelligence-sharing partnership of five countries: **the USA, UK, Canada, Australia, and New Zealand.**
- These nations collaborate closely on intelligence matters and **share information to protect their shared national interests.**
- The alliance **traces its origins back to World War II** when the UK and the US decided to share intelligence after successfully breaking German and Japanese secret message codes.
- It began as Britain-USA (BRUSA) agreement, later called the UK-USA (UKUSA) agreement. Canada joined in 1949 and New Zealand and Australia followed in 1956.

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BHIL TRIBES

- The Bhil tribe consists of **various indigenous groups inhabiting western India,** primarily in parts of Rajasthan, Gujarat & Madhya Pradesh.
- Bhils are listed as a Scheduled Tribe in the **Madhya Pradesh, Chhattisgarh, Maharashtra, Rajasthan & Gujarat.**
- Bhils are **one of the largest tribes in India** and are considered the most widely dispersed tribal group.
- They were designated as a criminal tribe under the **Criminal Tribes Act of 1871** due to their resistance against colonial authorities.
  - The **Bhil uprising of 1818,** led by Sewaram, was one of the first British resistance movement taken up by any group or tribe in the country.
- They speak **various languages of Indo-Aryan origin**, collectively referred to as Bhili languages, and many also speak regional languages like Marathi, Gujarati, and Bengali.
- The **Bhili language has up to 36 identified dialects**. It merges into regional languages like Marathi and Rajasthani in different regions.
- Around **10 million people recorded themselves as Bhili speakers** in the 2011 census

UN80 INITIATIVE

- It is a newly launched effort by **United Nations Secretary-General António Guterres.**
- It aimed at improving efficiency, cost-effectiveness, and strategic alignment within the 80-year-old global organization.
- The initiative seeks to optimize the UN's operations while ensuring it remains fit for purpose in addressing international challenges.
- To oversee the UN80 Initiative, Guterres has appointed **Under-Secretary-General Guy Ryder** to lead a dedicated internal task force.
  - This team comprises representatives from across the UN system, working together to drive reform and efficiency improvements.

NOTIFIABLE DISEASES

- Notifiable diseases are legally mandated to be reported to public health authorities for monitoring, prevention, and control.
- **Responsibility:** The state governments are responsible for implementing and notifying diseases.
- **Purpose:** Early warning of outbreaks, tracking disease burden, and guiding elimination and control programs.
- **Examples:** Cholera, tuberculosis, AIDS, dengue, hepatitis, leprosy, meningitis, plague, and measles.
  WHO's International Health Regulations (1969): Mandates countries to report diseases for global surveillance and advisory purposes.

INDO-PACIFIC OCEANS INITIATIVE (IPOI)

- **New Zealand has expressed its willingness to join** the Indo-Pacific Oceans Initiative (IPOI).
- **India launched the IPOI at the East Asia Summit in November 2019** to promote cooperation for a free, open, and rules-based Indo-Pacific.
- It aims to **strengthen maritime security, stability, and development** by fostering multilateral engagement among Indo-Pacific nations.
- It builds on India's **Security and Growth for All in the Region (SAGAR) vision,** which emphasizes the importance of collaborative efforts in regional maritime governance.
- The IPOI operates as a **voluntary, non-treaty-based arrangement, relying on existing frameworks** like the EAS mechanism, ensuring flexibility and adaptability in cooperation.
- The IPOI is **structured around 7 key pillars,** with specific countries taking the lead in each area:
  - **Maritime Security:** UK & India
  - **Maritime Ecology:** Australia & Thailand
  - **Maritime Resources:** France & Indonesia
  - **Capacity Building and Resource Sharing:** Germany
  - **Disaster Risk Reduction:** India & Bangladesh
  - **Science & Tech and Academic Cooperation:** Italy & Singapore
 - **Trade & Maritime Transport:** Japan & the USA

MUZHARA MOVEMENT

- Punjab Govt. unveiled a statue of Teja Singh Sutantar, a former MP and leader of the Muzhara Movement.
- Muzharas were **farmers who worked the land but had no ownership rights.** They were part of a larger class of landless peasants in Punjab, facing feudal exploitation. The **Biswedars (landlords), who took one-third of the produce**, controlled the land.
- This system led to economic exploitation, with a significant portion of the produce and profits going to the feudal landlords and, ultimately, the British colonial rulers.
- The Muzhara Movement **started in the 1930s** and went on till 1952 **against the Biswedari system.**
- The muzharas were seeking ownership of the land they had tilled for generations, asserting their right to the land in opposition to both the feudal and colonial systems.
- After a Congress ministry was established in Punjab, **in 1951, an Agrarian Reforms Committee was set up** in order to recommend the measures to tackle the issue.
- **In 1952, a law was passed** to protect the tenants. This allowed peasants to **become**

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the owners if they paid compensation twelve times of the land revenue.

GPS SPOOFING
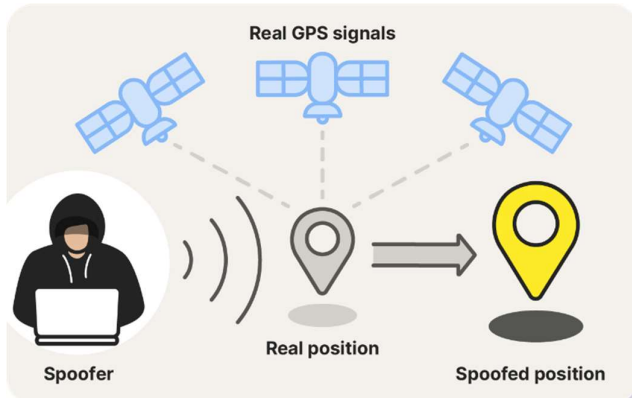
- GPS spoofing (or GPS simulation), refers to the practice of **manipulating or tricking a GPS receiver by broadcasting false GPS signals.**
- It **misleads the GPS receiver into believing it is located somewhere it is not,** resulting in the device providing inaccurate location data.
- This form of cyberattack undermines the reliability of GPS data, which is vital for a variety of applications, from navigation to time synchronization and more.
- Typically, a GPS spoofer begins by acquiring a basic understanding of the victim's GPS setup, including the types of signals it uses and how they are processed. With that information, the **attacker then sends counterfeit GPS signals that mimic the real ones**.
- These **fake signals are stronger, causing the receiver to recognize them as authentic** signals. As a result, the victim's GPS receiver ends up processing these counterfeit signals, leading to erroneous location information.

NUTRIENT BASED SUBSIDY (NBS)

- Under the NBS scheme – fertilizers are provided to farmers at **subsidized rates based on the nutrients contained in these fertilizers.**
- The following nutrients are covered under NBS: **Nitrogen, Phosphorus, Potassium and Sulphur (N, P, K & S).**
  - Currently, **urea is not included** in the NBS Scheme.
- Fertilizers fortified with secondary micronutrients such as **molybdenum & zinc are given additional subsidy.**
- Subsidy on P&K fertilizers is announced on an annual basis for each nutrient on a per kg basis – which are determined taking into account the international and domestic prices of P&K fertilizers, exchange rate, inventory level in the country etc.
- It aims to increase the use of P&K fertilizers so that **optimum balance (N:P:K= 4:2:1) of NPK fertilization is achieved.**
- It is being implemented from April 2010 by Department of Fertilizers, **Ministry of Chemicals & Fertilizers**.
- NBS is crucial for effective resource allocation & ensuring that **subsidies are directed to farmers who need them the most and to promote efficient & sustainable agriculture.**

> In 2023-24, India imported a total of 18.93 million tonnes of fertilizers (amounting to 134approx. Rs. 138 lakh crore). Union govt. has increased Fertilizer subsidy from Rs. 73,067 Cr in 2014-15 to Rs. 2,54,799 Cr in 2023-24.

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INS Tavasya

- The **last of the four Krivak-class stealth frigates contracted from Russia** and the second one under construction at Goa Shipyard Limited (GSL) with technology transfer, **INS Tavasya**, was launched.

- The first of the two frigates**, INS Triput,** was launched at GSL in July last year. As per schedule, GSL is set to deliver the first ship to the Indian Navy in 2026 and the second six months later.

- **In Oct 2016, India and Russia signed an agreement** for four additional follow-on stealth frigates, under which **two were to be directly imported and two manufactured by GSL under technology transfer.**

- Triput & Tavasya have a **large share of indigenous equipment**, weapons, and sensors - ensuring large-scale defence production by Indian units.

- The first of two ships made in Russia, **INS Tushil**, was commissioned in Dec 2024, at Kaliningrad in Russia. The second frigate, **INS Tamal**, is expected to be commissioned in June.

- While Tamal will be the last warship commissioned outside India or directly imported, INS Tavasya is **likely to be the last warship built under license from any country, as India now designs and constructs its own warships.**

District Mineral Foundation (DMF)

- As per the 2015 Amendment to the **Mines and Minerals Development and Regulation Act, 1957** - in every district affected by mining-related operations, the **state government shall, by notification, establish a trust as a non-profit body** to be called the District Mineral Foundation.

- Every mining lease holder of will **pay a fraction of royalty, not exceeding one-third** of the royalty, to the DMF as per rates prescribed by Union Govt. This fund will be used for **welfare of the people in mining affected areas**.

- The composition and functions of the DMF shall be such as may be prescribed by the State Government.

- The functioning of the DMF as per the states' DMF Rules are in accordance with **central guidelines under the PM Khanij Kshetra Kalyan Yojana** (Ministry of Mines)**.**

Objectives of DMF:

- **Implement developmental & welfare projects** in mining affected areas that complement the existing schemes of State and Union Government.

- **Minimize/mitigate adverse impacts**, during and after mining, on the health of people and on the environment, in mining districts.

- **Ensure sustainable livelihoods** for the affected people in mining areas.

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Implementation of DMF:

- At least **60% the fund will be utilized for "High Priority Areas"** like Drinking water supply, Environment preservation & pollution control measure, Health care, Education, etc.
- Rest will be used for **"Other Priority Areas"** such as Infra, Energy, Irrigation, Livelihoods, etc.

In the context of mining, a royalty is a payment made to the government or landowner for the privilege of extracting or selling minerals from their land, typically calculated as a percentage of the revenue or production.

GOLD MONETIZATION SCHEME
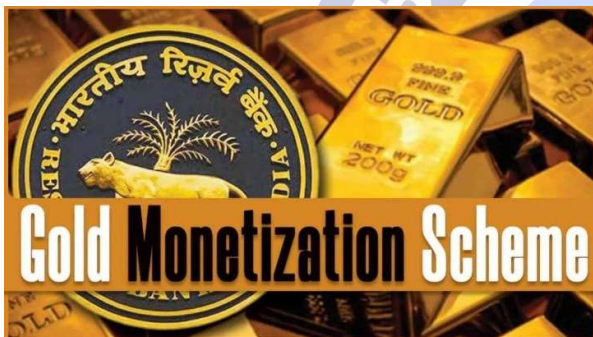
- The Centre has decided to discontinue the Gold Monetization Scheme (GMS).
- The **GMS was launched in 2015 to mobilize idle gold from households and institutions into the formal economy**, thereby reducing reliance on gold imports and **improving the current account deficit (CAD).**
- It included three deposit options:
    - Short-Term: 1-3 years
    - Medium-Term: 5-7 years
    - Long-Term: 12-15 years
- The scheme was open to individuals, institutions, and govt entities. **Only deposits worth above Rs. 1 lakh** were accepted.

Interest and Redemption:

- **Short-Term Deposits:** Interest rates were determined by individual banks.
- **Medium- and Long-Term Deposits:** Fixed interest of 2.25% (medium-term) and 2.5% (long-term).

Reasons for Discontinuation:

- The Finance Ministry discontinued the Medium-Term and Long-Term Deposits due to changes in gold prices.
- **Gold prices surged by 41.5% from ₹63,920 per 10 grams in Jan 2024 to ₹90,450 per 10 grams** by Mar 2025.
- This rise in gold value **reduced the attractiveness of schemes like GMS** for both depositors and the govt.
- With the closure of GMS, the government aims to **shift towards more market-oriented solutions** for gold-related financial products.

SONIC WEAPONS

- **Sonic weapons (Acoustic Weapons)** are **devices that deliver loud, painful sounds** over **long distances**.

- They can emit **audible or inaudible sound waves** to **disrupt, disorient, or incapacitate people**.

- Some versions act as **voice amplifiers**, allowing authorities to **issue commands over large distances**.

- First developed for **military and crowd control purposes**, they were used in **Iraq (2004) by the U.S. military**.

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Working

- They use hundreds of transducers (electronic devices that convert energy into sound waves).

- The highly concentrated and amplified sound can be directed at specific targets.

- Authorities control the frequency, volume, and duration of the sound.

- The narrow sound beam can cause extreme discomfort, pain, and disorientation to those exposed.

EXERCISE BONGO SAGAR

- It is a bilateral **naval exercise** between India **and Bangladesh.**

- It is designed to develop high-level interoperability and operational expertise through a broad spectrum of maritime operations.

- **Commenced in the year 2019**, Bongosagar 2025 is the **fifth edition** of the exercise.

  o The exercise saw **participation of INS Ranvir** from the Indian Navy and **BNS Abu Ubaidah from Bangladesh Navy.**

  o The exercise enhanced **interoperability between the two navies,** facilitating collaborative responses to shared maritime security challenges.

MERCHANT DISCOUNT RATE

- The Merchant Discount Rate (MDR), also known as the Transaction Discount Rate (TDR), **is a fee that businesses pay to payment processing companies for handling digital payments from customers,** such as credit cards, debit cards, UPI, and more.

- This fee compensates various parties involved in the payment process, including the issuing bank, the bank providing the PoS (Point of Sale) terminal, the network providers, and the payment gateway providers.

- The MDR includes all the charges and taxes related to digital or electronic transactions. Typically, it ranges from 1% to 3% of the transaction amount, depending on factors such as the volume of business, the types of cards used (debit or credit), and the average transaction value (also known as average ticket size or average sales).

- Before accepting card payments, merchants must set up this service and agree to the applicable rate.

- These fees are automatically deducted from the merchant's account at the time the transaction batch is settled.

- According to RBI regulations, **merchants are prohibited from passing these charges on to their customers.**

KURDS

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- The Kurds are members of a large, predominantly Muslim ethnic group.
- They speak a language related to Farsi and live mostly in a mountainous region straddling the borders of Armenia, Iraq, Iran, Syria and Turkey.
- **Treaty of Sèvres:** After World War I, Western powers promised Kurds their own homeland in the agreement known as the Treaty of Sèvres.
- **Treaty of Lausanne:** But later the Treaty of Lausanne, ratified in 1924, divided the Kurds among the new nations of the Middle East.
- Today, there are more than 30 million Kurds living across the region, with about half of them in Turkey.
- Iraq is the only country in the region to have established an **autonomous Kurdish region**, known as Iraqi Kurdistan. Its parliament was founded in 1992.

LAPIS LAZULI

- Lapis lazuli is a **vivid blue metamorphic rock**, known for its striking colour and semi-precious gemstone value.
- It has been highly valued for thousands of years for use in jewellery, ornaments, and pigments.
- Major **sources include Afghanistan, Chile, Russia, and the United States**.

- The highest-quality lapis lazuli is mined in Badakhshan province, Afghanistan, where it has been extracted for over 6,000 years.
- Ancient Trade and Use in India: Imported to India from Badakhshan as early as 1000 BCE.
- Ornaments made of lapis lazuli have been discovered at Indus Valley Civilization sites (Mohenjo-daro & Harappa).

FARAKKA BARRAGE
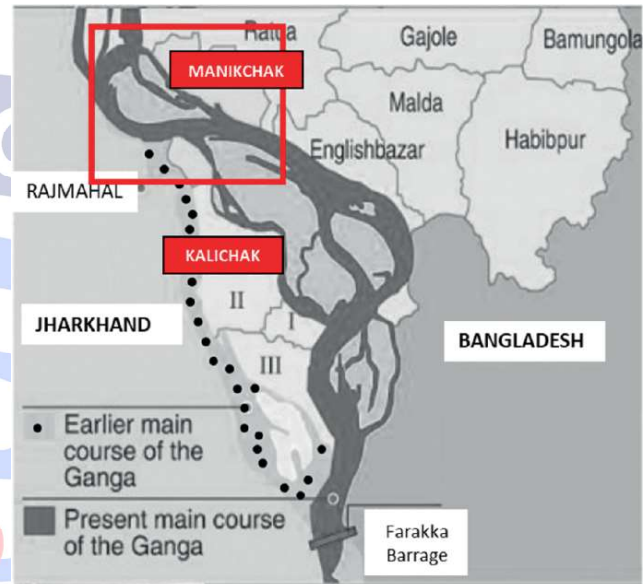
- The facility is located along the Ganga River in **Murshidabad district, West Bengal,** about 18 kilometers from the Bangladesh border.
- It began operations on April 21, 1975, after 12 years of construction and an investment of ₹130 crores.
- The primary function of the project is to channel 40,000 cusecs of water into the Farakka Feeder Canal **to help clear silt from the Bhagirathi-Hooghly River, thus facilitating uninterrupted navigation for Kolkata Port.**
- India and Bangladesh have signed several agreements regarding the **sharing of Ganga water**, including the Farakka Agreement of 1977 and the Ganga Water Treaty of 1996.

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- The Farakka Barrage has caused tensions in West Bengal due to its environmental and economic impacts.
- Local leaders claim water diversion harms agriculture, fisheries, and ecosystems downstream.
- The West Bengal government has criticized the lack of consultation on its operation, leading to political friction with the center. Despite India-Bangladesh agreements, water-sharing disputes persist, especially during dry periods.

COUNTERVAILING DUTY

- It is a specific form of duty that the government imposes **to protect domestic producers by countering the negative impact of import subsidies.**
- CVD is thus an import tax by the importing country on imported products.
- The World Trade Organization (WTO) permits the imposition of CVD by its member countries.

Why is CVD imposed?

- Foreign governments sometimes provide subsidies to their producers to make their products cheaper and boost their demand in other countries
- **To avoid flooding the market** in the importing country with these goods, the government of the importing country imposes CVD, charging a specific amount on the import of such goods.
- The duty nullifies and eliminates the price advantage enjoyed by an imported product.
- The duty raises the price of the imported product, **bringing it closer to its true market price**

Anti-dumping duty

- It is a protectionist **tariff that a domestic government imposes on foreign imports that it believes are priced below fair market value.**

- **Dumping is a process wherein a company exports a product at a price** that is **significantly lower** than the price **it normally charges in its home** (or its domestic) market.
- **AD is imposed to prevent low-priced foreign goods from damaging the local market**. On the other hand, C**VD will apply to foreign products that have enjoyed government subsidies**, which eventually leads to very low prices.
- While the **AD duty amount depends on the margin of dumping**, **the CVD** amount will completely **depend upon the subsidy** value of the foreign goods.

PERMAFROST

- Permafrost refers to **ground that stays frozen at or below 32°F (0°C)** for a minimum of **two consecutive years.**
- Permafrost is primarily found in areas with high mountain ranges and in regions closer to **Earth's poles**—both in the Arctic and Antarctic.
- It can be present both on land and beneath the seabed.
- The frozen ground can extend deep beneath the surface, ranging from a few feet to more than a mile in some areas.
- Permafrost can cover vast regions, like the Arctic tundra, or exist in smaller, isolated patches, such as on mountain tops (alpine permafrost).

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- Nearly 25% of the land area in the Northern Hemisphere has permafrost underneath it.
- Permafrost is made up of a mix of soil, rocks, and sand that are bound together by ice.
- While the ground remains frozen year-round, permafrost regions aren't always covered by snow.
- The upper layers of permafrost, known as the **active layer**, thaw out during warmer months and freeze again as temperatures drop in fall.
- The active layer tends to be thin—only a few inches—where temperatures are consistently cold, while it can reach several meters thick in warmer permafrost areas.
- In colder permafrost regions, the frozen layer remains intact year-round.
- The organic material near the surface consists mainly of dead plant matter that couldn't break down due to the freezing conditions, while the lower layers are composed mostly of mineral-rich soils.

EQUALISATION LEVY

- It is a tax imposed on non-resident digital service providers for services related to online advertisements and e-commerce transactions targeting Indian users.
- The Equalisation Levy was introduced in India in 2016 to tax the income earned by foreign e-commerce companies through digital transactions in the country.
- This levy primarily targets business-to-business transactions and is often referred to as the **"Google Tax."**

  - **Eligibility Criteria**:

    1. The payment must be made to a non-resident service provider.

    2. The total payment to the service provider in a financial year must exceed Rs. 1,00,000.

Services Covered Under the Levy:

- **Online Advertising Services**: This became effective from June 1, 2016.

- **Digital Advertising Space and Services**: This includes the sale of goods to Indian residents or to users accessing services through Indian IP addresses, effective from April 1, 2020.

- The government has stated that any other services that may be notified in the future will also be included in this list.

Exemptions to the Equalisation Levy:

- If the non-resident service provider has a permanent establishment in India, and the service is connected to that establishment.

- If the total amount payable for a specific service is less than Rs. 1,00,000 in a financial year.

- If the service is not intended for professional or business purposes.

- An exemption under Section 10(50) of the Income Tax Act is provided to avoid double taxation for income arising from services subject to the levy.

- Income that is considered fees or royalties for technical services is excluded from the equalisation levy.

This tax aims to ensure that foreign digital service providers contribute fairly to the Indian tax system, particularly those profiting from online advertising and e-commerce transactions.

EXERCISE AIKEYME (AFRICA-INDIA KEY MARITIME ENGAGEMENT)

- AIKEYMES marks India's first-ever multilateral naval exercise with 10 African nations.

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- It focuses on strengthening maritime collaboration, bolstering maritime security, and tackling regional challenges.

- It is scheduled to take place off the coast of Dar-es-Salaam, Tanzania, from April 13 to 18, 2025.

- **Participating nations**– Tanzania (co-host), Comoros, Djibouti, Eritrea, Kenya, Madagascar, Mauritius, Mozambique, Seychelles, and South Africa.

- **Aim:** To improve interoperability between the Indian Navy and African navies, emphasizing joint efforts against piracy and drug trafficking.

- **Key Activities:** Visit, Board, Search, and Seizure (VBSS) drills, arms firing exercises, helicopter operations, search and rescue missions, and table-top and command post exercises on anti-piracy operations and information-sharing.

About IOS Sagar

- The IOS Sagar initiative is designed to deepen India's maritime collaboration with Indian Ocean Region (IOR) countries.

- It involves the deployment of the Indian Navy's INS Sunayna, crewed by Indian sailors alongside 44 personnel from nine African nations.

- The initiative will take place from April 5 to May 8, 2025.

- **Key Participating Countries**: Sri Lanka, Maldives, Mauritius, Comoros, Kenya, Madagascar, Mozambique, Seychelles, and South Africa.

- **Key Activities**:

  o The ship will make port calls at Dar-es-Salaam, Nacala, Port Louis, Port Victoria, and Male.

  o It will conduct joint surveillance of the Exclusive Economic Zones (EEZs) of Tanzania, Mozambique, Mauritius, and Seychelles.

  o The Personnel will undergo two-week training sessions in Kochi, covering sea training, watchkeeping, and other professional naval activities.

BAANKNET PORTAL

- It is an **e-auction portal that consolidates information on all properties that are put up for e-auction by public sector banks** (PSBs).

- The portal is a one-stop destination for buyers and investors offering a wide range of properties.

- The listings on the new platform include residential properties such as flats, independent houses, and open plots, as well as commercial properties, industrial land and buildings, shops, vehicles, plant and machinery, and agricultural and non-agricultural land.

Features:

- The new portal is equipped with improved and enhanced features, including frictionless user journeys where the portal will have the entire pre-auction, auction, and post-auction journeys in a single application.

- It includes an automated and integrated payment gateway alongside KYC tools, all built on a microservices-based architecture that allows for third-party integration through open application programming interface (API).

- Users can benefit from a dashboard feature for easy access to 'Spend Analytics' and various 'Management Information System (MIS) Reports' at the click of a button.

- Additionally, a dedicated helpdesk and call centre facility with a callback request option ensures customer support.

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- By gathering all these details in one place, the portal simplifies the process of finding and participating in property e-auctions, making it easier for buyers and investors to identify valuable opportunities.
- It significantly aids the recovery process of public sector banks (PSBs), thereby improving the balance sheet of banks and enhancing credit availability to businesses and individuals.

FINANCIAL ACTION TASK FORCE (FATF)

- FATF is an inter-governmental policy-making and standard-setting body dedicated to ***combating money laundering and terrorist financing.***
- **Objective:** To establish international standards, and to develop and promote policies, both at national and international levels, to combat money laundering and the financing of terrorism.
- **Origin:** It was established in 1989 during the G7 Summit in Paris to develop policies against money laundering.
  - In 2001 its mandate expanded to include terrorism financing.
- FATF members include **39 countries**, including the United States, India China, Saudi Arabia, Britain, Germany, France, and the EU as such.
- **India became a member of FATF in 2010.**
- **Headquarters:** Paris, France.

FATF has 2 types of lists:

- **Black List:**
  - Countries known as Non-Cooperative Countries or Territories (NCCTs) are put on the blacklist.
  - These countries support terror funding and money laundering activities.
  - The FATF revises the blacklist regularly, adding or deleting entries.
  - Three countries North Korea, Iran, and Myanmar are currently in FATF's blacklist.
- **Grey List:**
  - Countries that are considered a safe haven for supporting terror funding and money laundering are put on the FATF grey list.
  - This inclusion serves as a warning to the country that it may enter the blacklist.

FATF '40+9'

- FATF has formed 40 recommendations against money laundering and 9 special recommendations against terrorist financing, which form the commonly known '40+9' FATF Standards.

FATF Mutual Evaluation Report on India

- **Regular Follow-up Category:** India placed in "regular follow-up" category, indicating an effective system for combating money laundering and terror financing.
- **Risk Profiling:**
  - Financial institutions need improved risk profiling of customers.
  - Ministry of Corporate Affairs (MCA) registry requires better monitoring for accurate ownership information. •
- **Money Laundering Risks**:
  - Key sources: fraud, cyber enabled fraud, corruption, and drug trafficking.

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- **Terror Threats:** Primarily linked to *Islamic State and al-Qaeda groups* in Jammu and Kashmir.
- **Domestic Politically Exposed Persons**
  - Report calls for defining domestic PEPs under anti money laundering laws. o Improve identification and risk-based measures for PEPs.

NATIONAL CENTRE FOR GOOD GOVERNANCE

- It is an apex–level autonomous body under the **Ministry of Personnel, Public Grievances and Pensions.**
- It was **set up in 2014**. It traces its **origin to the National Institute of Administrative Research (NIAR),** which was set up in 1995 by the Lal Bahadur Shastri National Academy of Administration (LBSNAA). NIAR was subsequently rechristened as NCGG.

Objectives:

- Work as a **national repository on best practices**, initiatives & methodologies that promote Good Governance.
- **Advise on key issues** in governance and develop **synergy across union and state governments.**
- Engage in provision of **consultancy services in and outside India.**

GLOBAL ASTROMETRIC INTERFEROMETER FOR ASTROPHYSICS (GAIA) MISSION
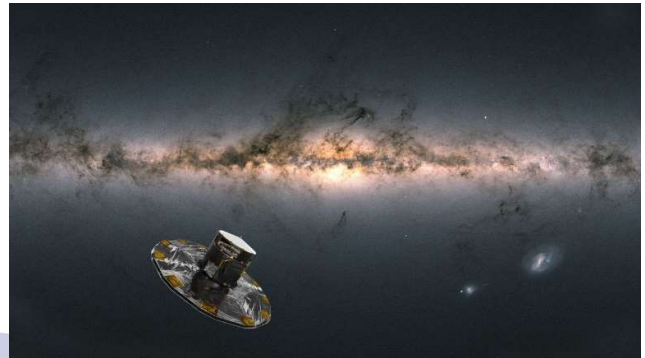
- It was launched in **December 2013** by the European Space Agency with the primary goal to create the most accurate three-dimensional map of the **Milky Way galaxy.**
- It sought to measure the **positions, distances, and movements** of stars and other celestial bodies.
- Gaia was designed for **astrometry**, focusing on precise measurements of celestial object locations and motions.
- Positioned at **Lagrange Point 2 (L2)**, **1.5 million kilometres** behind Earth (as viewed from the Sun), Gaia was able to observe the universe without interference from Earth, the Sun, or the Moon.
- Gaia was equipped with two telescopes and a **camera with nearly 1 billion pixels**, the largest camera ever sent to space. Key instruments include:

  1. **Astrometer**: Measured the location and motion of stars.

  2. **Photometer**: Measured brightness of celestial objects.

  3. **Spectrometer**: Analyzed the composition and movement of stars.

Discoveries and Achievements:

- Gaia mapped the **Milky Way** in 3D, uncovering its shape, structure, and movement. It also detected **warping and wobbling** in the galaxy.

- Gaia identified new **types of black holes** by observing their gravitational effects and tracked over **150,000 asteroids**, contributing insights on their orbits and future impacts on Earth.

- Additionally, it provided new understanding of **stellar evolution** and the formation of stars, including the **Sun**.

- Gaia accumulated over **3 trillion observations**, contributing to more than **13,000 scientific papers**, revolutionizing knowledge about the Milky Way, the solar system, and galactic dynamics.

- On **March 27, 2025**, Gaia was successfully **passivated**, draining all internal energy sources. This means it can no longer be restarted or resumed for future operations.

HAL PRACHAND

- The HAL Prachand, India's first indigenously designed and manufactured **light combat helicopter (LCH),** is built by **Hindustan Aeronautics Limited**

- **It is the only attack helicopter in the world which can land and take off at an altitude of 5,000 meters with a considerable load of weapons and fuel,**

meeting the specific requirements laid out by the Indian Armed Forces.

- It has the maximum take-off weight of 5.8 tonnes, maximum speed of 268 kilometers per hour, range of 550 kilometers, endurance of over three hours and service ceiling — the maximum density altitude to which it can fly — of 6.5 kilometres.

- The helicopter uses radar-absorbing material to lower radar signature and has a significantly crash-proof structure and landing gear.

- A pressurised cabin offers protection from nuclear, biological and chemical (NBC) contingencies.

- The helicopter is equipped with a countermeasure dispensing system that protects it from enemy radars or infrared seekers of the enemy missiles.

- As far as weapons systems are concerned, a 20 mm turret gun, 70 mm rockets and air-to-air missile systems are onboard.

- LCH is powered by two French-origin Shakti engines manufactured by the HAL.

NAG MISSILE SYSTEM

Developed By:

- Defence Research and Development Laboratory (DRDL), DRDO

- Production by Bharat Dynamics Limited (BDL)

Key Features:

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- Third-generation 'fire-and-forget' missile that locks onto targets using an Imaging Infrared (IIR) Seeker before launch.
- Designed to destroy heavily armoured enemy tanks, including those equipped with composite and reactive armour.
- Night-strike capability for operations in low visibility conditions.
- Range: 500 meters to 4 km.

Other Versions of Nag ATGM:

- Helina is the Helicopter-Launched Version, Developed for Rudra and Light Combat Helicopters (LCHs).

EXERCISE VARUNA 2025

- It is the **bilateral Naval Exercise between India and France**.
- Initiated in 1993, the exercise was christened 'Varuna' in 2001 and has become a hallmark of the India-France strategic bilateral relationship.
- VARUNA 2025 is the **23rd edition of the exercise** and will take place in the **Arabian Sea**.
- It will showcase a **series of high-intensity naval drills**, emphasizing joint operations across sub-surface, surface, and aerial domains.
- The **Indian Navy's aircraft carrier, INS Vikrant**, and the **French aircraft carrier, Charles de Gaulle**, will participate alongside their fighter aircraft, destroyers, frigates, and an Indian Scorpene-class submarine, demonstrating the combined strength and operational capabilities of both naval forces.

- One of the key highlights of the exercise will be advanced air defence drills and mock air-to-air combat scenarios between the **French Rafale-M** and **Indian MiG-29K fighter jets**.
- Additionally, anti-submarine warfare drills will focus on strengthening **underwater domain awareness**, while surface warfare operations will test the ability of both navies to execute synchronized engagements and manoeuvres.

SARTHI AND PRAVAAH INITIATIVES

- The Reserve Bank of India was recently selected for the **UK's Digital Transformation Award 2025** for its tech **innovations Sarthi and Pravaah systems**.
- The **Sarthi system**, named after the Hindi word for 'charioteer', was launched in January 2023 to **digitize all of RBI's internal workflows**.
- It enables employees to **securely store and share documents, improving record management and enhancing data analysis** through reports and dashboards.
- The online **Sarthi Pathshala** ('school') helps users become familiar with the system, and the Pathshala was rolled out alongside extensive in-person training.
- Additionally, **Sarthi mitras** ('friends') are people in each RBI office who know the system well and can help colleagues with any issues.

Pravaah:

- Building upon the foundation of Sarthi, the Pravaah system, meaning 'smooth flow' in Hindi, was introduced in May 2024.
- This platform allows **external users to submit regulatory applications digitally**, seamlessly integrating with the Sarthi database for processing within RBI's offices.
- The transition to a fully digital infrastructure, supported by **centralised cybersecurity and tracking mechanisms**, has significantly improved transparency and efficiency.

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- Pravaah's seamless integration with Sarthi has not only streamlined the submission process but also provided real-time tracking and analytics for both applicants and RBI managers, cutting down on the lengthy delays caused by paper-based systems.
- The RBI has seen an **80% increase in monthly applications** since Pravaah's launch, marking a significant achievement in the central bank's digital evolution.

DURAND LINE

- Established in the **Hindu Kush in 1893**, the Durand Line ran through the tribal lands between Afghanistan and British India.
- In modern times it has marked the **border between Afghanistan and Pakistan**.
- It is a **legacy of the 19th century Great Game** between the Russian and British empires in which **Afghanistan was used as a buffer** by the British against a feared Russian expansionism to its east.
- The agreement demarcating what became known as the Durand Line was signed between the **British civil servant Sir Henry Mortimer Durand** and **Amir Abdur Rahman**, then the Afghan ruler in 1893.
    - Abdur Rahman became king in 1880, two years after the end of the **Second Afghan War** in which the British took control of several areas that were part of the Afghan kingdom.
    - His agreement with Durand demarcated the limits of his and British India's "spheres of influence" on the Afghan "frontier" with India.
- The seven-clause agreement recognised a 2,670-km line, which stretches from the border with China to Afghanistan's border with Iran.
- It also **put on the British side the strategic Khyber Pass**.
    - It is a **mountain pass** in the Hindu Kush, on the **border between Pakistan and Afghanistan**.
    - The pass was for long of great commercial and strategic importance, the route by which successive invaders entered India, and was garrisoned by the British intermittently between 1839 and 1947.
- The line cut through Pashtun tribal areas, leaving villages, families, and land divided between the two "spheres of influence".
- With independence in 1947, **Pakistan inherited the Durand Line**, and with it also the **Pashtun rejection of the line**, and Afghanistan's refusal to recognize it.
- When the Taliban seized power in Kabul the first time, they rejected the Durand Line. They also strengthened Pashtun identity with an Islamic radicalism to produce the Tehreek-e-Taliban Pakistan, whose terrorist attacks since 2007 left the country shaken.

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BIREFRINGENCE

- It is the **optical property of certain materials** where **incident light splits into 2 rays**, each **traveling at different speeds** due to varying refractive indices in different directions.
- It arises due to the **anisotropic nature** of materials.
- The **refractive index** is the ratio of the speed of light in a vacuum to its speed in a medium.
  - o A vacuum has a refractive index of 1.
  - o A **higher refractive index** indicates **greater optical density** and **slower light speed**.

**Types of Birefringent Materials:**

- **Natural:** Calcite, quartz, mica
- **Synthetic:** Barium borate, lithium niobate
- **Induced:** Can be created by applying **physical stress, electric, or magnetic fields**.
- **Applications:** Used in **LCDs, microscopes, optical switches**, **waveplates, frequency converters, and lasers for light manipulation**.

Isotropic and Anisotropic Materials

- **Isotropic Materials:** Have **uniform structure, refract light at a constant angle**, and **allow it to pass at a single velocity without polarization**.
  - o Eg: Glass, Table salt (NaCl).

- **Anisotropic Materials:** Have **different crystal axes**, causing light to split into 2 rays with different velocities and **perpendicular polarization** (birefringence).
  - o Eg: Calcite, Quartz, Mica, Tourmaline.

CHINA PLUS ONE
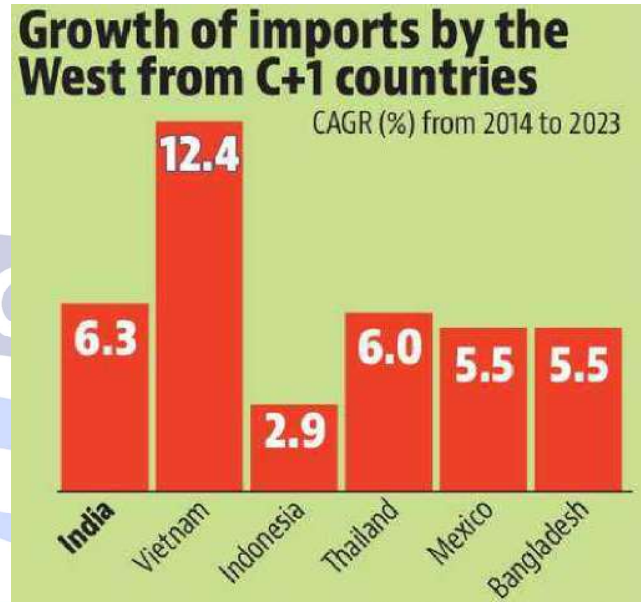
- It refers to the global trend where companies **diversify their manufacturing and supply chains** by establishing operations in countries other than China.
- This approach aims to mitigate risks associated with over-reliance on a single country, especially in light of geopolitical tensions and supply chain disruptions.
- In the 1990s, large manufacturing entities from the US and Europe shifted their production to China, attracted by the low manufacturing costs and access to a vast domestic market.
- The confluence of factors, including **China's zero-Covid policy, supply chain disruptions, high freight rates, and longer lead times** - led many companies to adopt a "China-Plus-One" strategy.
- This involves **exploring alternative manufacturing locations** in other developing Asian countries, such as **India, Vietnam, Thailand, Bangladesh, and**

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Malaysia, to diversify their supply chain dependencies.

GUDI PADWA AND UGADI

- These are traditional new year festivals celebrated by the people in the **Deccan region including Karnataka, Andhra Pradesh and Maharashtra**.
- A famous concoction served is jaggery (sweet) and neem (bitter), called **bevu-bella** in the South, signifying that life brings both happiness and sorrows.
- **Gudi** is a **doll prepared in Maharashtrian homes**.
- A bamboo stick is adorned with green or red brocade to make the gudi. This gudi is placed prominently in the house or outside a window/door for all to see.
- For **Ugadi**, doors in homes are adorned with mango leaf decorations called **toranalu or Torana** in Kannada.
- Other traditional new years include:
  o **Chaitra Shukla Pratipada:** It marks the beginning of the new year of the Vikram Samvat also known as the Vedic [Hindu] calendar.
  o **Cheti Chand** celebrated by Sindhis
  o **Navreh** in Kashmir
  o **Sajibu Cheiraoba** celebrated by the meiteis of Manipur
  o **Puthandu** in Tamil Nadu and **Vishu** in Kerala

OPERATION BRAHMA

- It is the operation launched by the Indian govt to provide humanitarian aid as well as search and rescue services in the wake of the **earthquake in Myanmar**.

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