

CURRENT AFFAIRS

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POLITY AND GOVERNANCE

1.1. BAR COUNCIL OF INDIA AND REGULATION OF LEGAL EDUCATION

Context:

- Recently, the Supreme Court of India ruled that neither the **Bar Council of India (BCI)** nor State Bar Councils possess statutory jurisdiction or powers under the Advocates Act, 1961, to take disciplinary or punitive actions against law students.
- The judgment arose from the NALSAR controversy, where the BCI sought to prevent the 2026 graduating batch from enrolment after students opposed the proposed CJI's participation as chief guest at the convocation.



Key SC Observations

- The Court held that the **Advocates Act, 1961** does not confer either an express or implied power on the BCI or State Bar Councils to discipline students pursuing legal education.
- The Court clarified that disciplinary action against law students falls within the authority of their parent university/institution or any authority specifically empowered under its regulations/by-laws
- BCI's disciplinary powers under the Act are limited to registered/enrolled advocates only — not students who haven't yet enrolled.
- BCI's disciplinary jurisdiction** applies after enrolment as **an advocate**.
- Studying law alone does not place students under Bar Council discipline.

About Bar Council of India (BCI)

- Nature: Statutory body.
- Parent legislation: Advocates Act, 1961.
- Primary role: Regulation of the legal profession and legal education in India.
- It lays down standards of professional conduct and etiquette for advocates.
- BCI Chairperson is elected by its members (not a government appointee).

About Advocates Act, 1961

- Consolidated law relating to legal practitioners; created **All India Bar** with common roll of advocates.
- Established BCI at the Centre and **State Bar Councils** in states.
- Provides for two classes: **Senior Advocates** and **other advocates**.

Fundamental Rights Intersecting the Ruling

- Article 19(1)(a):** Protects the freedom of speech and expression, including the right of students to peaceful dissent and protest.
- Article 19(1)(c):** Guarantees the right to form associations or unions.

Advocate vs Lawyer: Key Difference

Lawyer	Advocate
A person who has studied law and holds a law degree.	A lawyer who is enrolled with a State Bar Council and is entitled to practise law in courts.
May work in legal consultancy, corporate jobs, academia, etc.	Can represent clients before courts and tribunals , subject to applicable rules.
The term is broader.	It is a specific professional status under the Advocates Act, 1961.

1.2. NICOTINE POUCHES AND INDIA'S REGULATORY GAP**Context:**

- A recent study by **ICMR–National Institute of Cancer Prevention and Research (NICPR)** has highlighted the growing availability of **nicotine pouches** in India through online platforms, tobacco/hookah shops and delivery services.
- The concern is that these products contain **nicotine but no tobacco**, and are **neither electronic cigarettes nor conventional tobacco products**. This raises an important question: **Which Indian law regulates them?**

**What are Nicotine Pouches?**

- Nicotine pouches are **small, tobacco-free oral products** containing:
 - Nicotine
 - Flavouring agents
 - Plant-based fibres and other ingredients
- They are placed between the **lip and gum**, from where nicotine is absorbed through the oral mucosa.

Why does a Regulatory Gap Arise?

India's major nicotine-related laws were designed around **specific categories of products**, such as:

1. COTPA, 2003

- The Cigarettes and Other Tobacco Products Act (COTPA) regulates cigarettes and tobacco products.
- Since nicotine pouches are marketed as **tobacco-free**, their automatic classification under COTPA is legally problematic.

2. PECA, 2019

- The **Prohibition of Electronic Cigarettes Act (PECA)** prohibits the production, manufacture, import, export, transport, sale, distribution, storage and advertisement of **electronic cigarettes**.

Why nicotine pouches fall outside this framework?

- Because they are:
 - Not electronic
 - Do not generate vapour/aerosol
 - Do not require a vaping device

Could Nicotine Pouches Be Treated as Drugs?

- This is another issue raised by their legal classification.
- The **Drugs and Cosmetics Act, 1940** regulates drugs and certain therapeutic products.
- Nicotine is used in **nicotine-replacement therapies (NRTs)** such as: Nicotine patches, Nicotine lozenges.
- These are intended to help in **tobacco cessation**.
- However, a nicotine pouch intended for **recreational nicotine consumption** cannot automatically be treated as a therapeutic drug merely because it contains nicotine.

Can They Be Sold at Duty-Free Shops?

- Duty-free does not mean law-free.
- A duty-free shop primarily concerns customs-duty treatment. It does not automatically exempt a product from other applicable laws or import restrictions.
- Hence, the mere presence of a nicotine pouch in a duty-free environment does **not by** itself establish that its import or sale is legally permissible.

1.3. FSSAI'S FRONT-OF-PACK WARNING LABELS ON PACKAGED FOODS

Context:

- Recently, the **Supreme Court** has sought clarity from the **Food Safety and Standards Authority of India (FSSAI)** on its proposed **front-of-pack warning labels** for packaged foods high in **added sugar, salt and fat**. FSSAI has proposed **red hexagonal warning labels**, with nutrient thresholds linked to the **Dietary Guidelines for Indians, 2024**.



Supreme Court's Key Concerns

- **Ambiguous Nutrient Thresholds:** Questioned the clarity and scientific methodology FSSAI uses to determine when packaged food is classified as "high" in salt, sugar, or saturated fats.
- **Child and Public Health Risks:** Emphasized that weak or delayed food safety standards pose direct long-term health risks, particularly to growing children.
- **Regulatory Laxity:** Urged FSSAI to treat **front-of-pack** warning label enforcement as a critical matter of "national interest" rather than delaying action.

What are Front-of-Pack Warning Labels?

- **Front-of-Pack Labelling (FoPL)** provides simplified nutritional information on the **front side of packaged food**, allowing consumers to identify important health-related information quickly.
- Warning labels are intended to highlight products containing **high levels of nutrients of concern**, such as sugar, salt/sodium and fats.
- FSSAI's proposed system uses a **red hexagonal warning** to alert consumers when a packaged food crosses the prescribed threshold for specified nutrients.

Basis for Determining "High" Levels

- FSSAI has indicated that the proposed thresholds would be based on the **Dietary Guidelines for Indians, 2024**.
- These guidelines were developed by the **ICMR–National Institute of Nutrition (ICMR-NIN)**.

- The Supreme Court has sought greater clarity on **how the regulator will determine the threshold beyond which a food product will be classified as “high”** in sugar, salt or fat.

About FSSAI

- FSSAI is India's statutory food-safety regulator.
- It was established under the **Food Safety and Standards Act, 2006**.
- It works under the **Ministry of Health and Family Welfare**.
- Its broad mandate includes:
 - Setting **food standards**.
 - Regulating the **manufacture, storage, distribution, sale and import of food**.
 - Ensuring the **availability of safe and wholesome food**.
 - Providing scientific and regulatory frameworks for food safety.

1.4. FOREST RIGHTS ACT & GRAM SABHA CONSENT

Context:

- A recent debate has emerged over whether Gram Sabha consent is legally mandatory for projects involving diversion of forest land under the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 (FRA).

Core Dispute

- MoTA's Legal Standpoint:** Ministry of Tribal Affairs clarified that the Forest Rights Act (FRA), 2006 does not contain any provision requiring Gram Sabha consent for **stage –II forest clearance**, matters concerning such consent do not fall under the Ministry's purview.
- The Regulatory Mandate (Forest Conservation Guidelines):** While the text of the FRA lacks the explicit terminology, guidelines under the **Forest (Conservation) Act, 1980** specifically require that all FRA processes be completed—and a No-Objection Certificate (NOC) secured from affected Gram Sabhas—before forest land can be formally diverted.



What is the Forest Rights Act, 2006?

Parameter	Statutory Provision
Nodal Authority	Ministry of Tribal Affairs (MoTA). Implementation at the ground level rests with State/UT Governments.
Beneficiaries	FDST: Forest Dwelling Scheduled Tribes living in the area prior to December 13, 2005 . OTFD: Other Traditional Forest Dwellers residing for at least 3 generations (75 years) prior to Dec 13, 2005.
Ceiling Limit	Individual Forest Rights (IFR) land holding is capped at a maximum of 4 hectares per family for actual occupation.
Gram Sabha Authority	Statutory authority to initiate the process of determining nature and extent of individual or community forest rights (CFR).
Appellate Machinery	3-Tier Structure: Gram Sabha → Sub-Divisional Level Committee (SDLC) → District Level Committee (DLC). The DLC's decision is final and binding.

Role of the Gram Sabha under FRA

- The **Gram Sabha is the primary authority** under the FRA for initiating and determining forest rights claims.
- Key functions:
 - Receives and verifies claims.
 - Prepares resolutions on forest rights.
 - Determines the nature and extent of rights.
 - Plays a crucial role in protecting **community forest resources**.
 - Exercises responsibilities relating to conservation and management of forest resources.
- **Niyamgiri Judgment (2013):** *Orissa Mining Corporation v. Ministry of Environment & Forest* — The Supreme Court held that the Gram Sabha has the ultimate authority under **PESA and FRA** to decide whether mining/diversion affects religious, cultural, or community rights over forest land.

Key takeaway

- The controversy is essentially about **the distinction between:**
- “**Consent expressly mandated by the FRA**” and “**Procedural requirements imposed through forest-diversion guidelines to ensure FRA compliance.**”

Proposed Reform

- A **Parliamentary Standing Committee on Public Undertakings** examined delays in forest clearances for NHPC hydropower projects.
- Average forest-clearance time for under-construction hydropower projects was reported at **106 months**.
- **Teesta-IV Hydroelectric Project** was reportedly stalled due to pending consent from some Gram Panchayats.
- The committee supported replacing **unanimous consent** with a **70–75% “qualified super-majority”** for large hydropower projects of national importance.
- It recommended that the **Power Ministry** examine the proposal in consultation with the **Ministry of Tribal Affairs**.

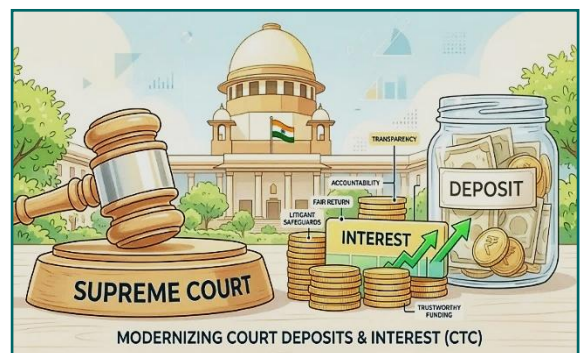
1.5. SUPREME COURT CALLS FOR LAW TO SAFEGUARD COURT DEPOSITS

Context:

- Recently, the Supreme Court called for a **uniform statutory framework** to regulate litigants’ court deposits, ensuring their **proper investment and protection of time value and interest**.

What are Court Deposits?

- **Court deposits** are amounts deposited by litigants with a court/tribunal, often as a condition for obtaining a **stay, pursuing an appeal or complying with a judicial order**.
- The money remains subject to the outcome or directions of the court.
- Since cases can remain pending for years, **how the deposited money is invested and whether it earns interest** becomes important.



Why Did the Supreme Court Raise the Issue?

- Different courts follow **different methods** for handling deposited money.
- Some courts invest deposits in **Fixed Deposits (FDs)**, while others follow different banking or government-security mechanisms.
- Such differences can result in **unequal treatment of similarly placed litigants**.
- Lack of uniformity can also create disputes regarding **investment, accounting and interest**.

Supreme Court's Proposed Approach

The Court suggested:

- A **uniform mechanism** for handling court deposits.
- Deposited money could be pooled through a **common platform**.
- The pooled funds could be invested in an appropriate **financial instrument** to protect their value and generate returns.
- It referred to the **U.S. Court Registry Investment System (CRIS)** as an international model worth examining.
- It requested the **Law Commission of India** to examine the need for legislation and consult relevant institutions, including the **RBI, Ministry of Finance and Ministry of Law & Justice**.

Examples of Different Practices



Delhi High Court: Court deposits are provided for being kept in **fixed deposits** under its Original Side Rules.



Allahabad High Court: Certain court deposits are sent to the **State Bank of India**.



Calcutta High Court: Certain deposits are held through the **Reserve Bank of India** mechanism.



Madras High Court: Uses **Suitors' Funds Accounts** with RBI and specified securities.

Existing Supreme Court Position

- In **K.L. Suneja v. Dr. Manjeet Kaur Monga (2023)**, the Supreme Court had directed courts and judicial forums to frame guidelines so that money deposited with their registry/office is **mandatorily placed in a bank or financial institution**, thereby preventing loss to litigants.

1.6. REMOVAL OF THE CHIEF ELECTION COMMISSIONER

Context:

- **Recently**, opposition parties submitted a Rajya Sabha notice signed by 63 MPs seeking the removal of **CEC**, invoking **Article 324(5)** and related removal procedures.

Core Constitutional & Statutory Framework (Article 324)

- **Constitutional Basis:** The Election Commission of India (ECI) functions under **Article 324** of the Constitution.
- **Security of Tenure:** Article 324(5) states that the CEC cannot be removed from office *except in like manner and on the like grounds as a Judge of the Supreme Court*.
- **Statutory Reinforcement:** The provisions regarding removal are also aligned with the Chief Election Commissioner and other Election Commissioners (Appointment, Conditions of Service and Term of Office) Act, 2023.



Grounds & Procedure for Removal of CEC

- **Grounds:** Only **proved misbehaviour or incapacity** under **Article 324(5)**.
- **Initiation:** Motion can begin in either House with **100 Lok Sabha or 50 Rajya Sabha MPs' signatures**.
- **Inquiry:** A **3-member committee** investigates charges under the **Judges (Inquiry) Act, 1968**.
- **Parliamentary Approval:** Requires **Special Majority** in both Houses.
- **Final Removal:** Parliament's address is submitted to the **President**, who issues the removal order.
- Till now **no Chief Election Commissioner has ever been impeached or removed** through Parliament.

CEC vs. Other Election Commissioners

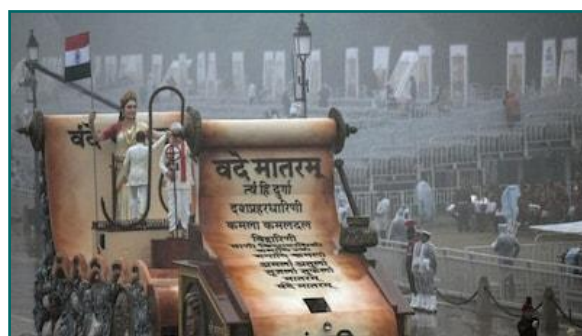
Feature	Chief Election Commissioner (CEC)	Other Election Commissioners (ECs)
Removal Method	Removed like a Supreme Court Judge (Special majority + Inquiry)	Can only be removed upon the recommendation of the CEC .
Constitutional Protection	Highest level of security of tenure to insulate the office from executive interference.	Protected against direct executive removal; dependent on the CEC's recommendation.

About CEC

- Under the *Chief Election Commissioner and other Election Commissioners Act, 2023*, the CEC and other ECs are appointed by the President based on the recommendation of a 3-member committee comprising:
 - **Prime Minister** (Chairperson)
 - **Leader of the Opposition (LoP)** in the Lok Sabha
 - **A Union Cabinet Minister** nominated by the Prime Minister
- **Nature of the ECI:** It is a multi-member body (one CEC and two Election Commissioners). The CEC functions as "**first among equals**".
- **Section 16, 2023 Act:** Election Commissioners are protected from **civil and criminal proceedings** for official acts when acting **collectively as a multi-member body**.

1.7. SUPREME COURT CLARIFIES RIGHTS OVER NATIONAL SONG**Context:**

- Recently, the Supreme Court held that refusing to sing or recite the National Song on grounds of conscience or religious belief cannot by itself justify criminal prosecution, and it has sought the Union Government's response to a petition challenging the Prevention of Insults to National Honour (Amendment) Act, 2026 along with related Home Ministry directions.

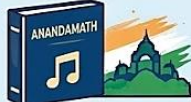
**Supreme Court's Observations**

- The Court observed that while the **National Song is not in dispute**, the State cannot infringe the **fundamental rights under Articles 25 and 26** relating to religious freedom.

- A **conscientious objector** cannot be compelled to sing or recite one or more stanzas of the National Song by subjecting them to **criminal prosecution**.
- The Court referred to the **1986 Supreme Court judgment in *Bijoe Emmanuel v. State of Kerala***, which upheld the right to religious freedom of students who respectfully declined to sing the National Anthem.

Constitutional Provisions Involved

- **Article 25:** Freedom of conscience and the right to freely profess, practise and propagate religion.
- **Article 26:** Freedom to manage religious affairs, subject to constitutional limitations.
- **Article 19:** Protects specified freedoms, including freedom of speech and expression.
- The issue involves balancing **respect for national symbols** with **fundamental rights and freedom of conscience**.

National Anthem vs National Song			
India has two important national symbols – the National Anthem and the National Song. While both evoke patriotism and pride, they differ in origin, author, and constitutional status.			
 NATIONAL ANTHEM <i>"Jana Gana Mana"</i>		 NATIONAL SONG <i>"Vande Mataram"</i>	
Title	Jana Gana Mana	Title	Vande Mataram
Author	Rabindranath Tagore	Author	Bankim Chandra Chattopadhyay
Language	Bengali	Language	Sanskritised Bengali
First Published	1911	First Published	1875
Source	<i>Bharoto Bhogyo Bidhata</i>	Source	<i>Anandamath</i>
Adopted	24 January 1950	Adopted	24 January 1950
Status	National Anthem of India	Status	National Song of India
Constitutional Provision	Article 51A(a) – Fundamental Duty to respect the National Anthem	Constitutional Provision	No specific constitutional provision
Historical Significance	Symbol of national unity and sovereignty	Historical Significance	Closely associated with the Indian freedom movement, particularly the Swadeshi Movement

About Prevention of Insults to National Honour Act, 1971

- The Act provides legal protection to:
 - National Flag
 - Constitution
 - National Anthem
- **2026 Amendment:** The amendment expanded **Section 3** to include the **National Song, Vande Mataram**, along with the National Anthem.
- It provides punishment for intentionally:
 - preventing the singing of the **National Anthem or National Song**, or
 - causing disturbance to an assembly engaged in such singing.
- **Punishment:** Imprisonment up to **3 years**, or fine, or both.

About Vande Mataram

Aspect	Fact
Composer	Bankim Chandra Chattopadhyay
Language	Sanskritised Bengali
First published	1875
Novel	<i>Anandamath</i>
First Sung	It was first sung at the 1896 session of the Indian National Congress in Calcutta, by Rabindranath Tagore.
Freedom movement	Associated particularly with the Swadeshi Movement
Status	The first two stanzas were adopted as the National Song of India.
National Recognition	On 24 January 1950 , Dr Rajendra Prasad stated in the Constituent Assembly that Vande Mataram would be honoured equally with Jana Gana Mana .

1.8. SUPREME COURT RULING ON ARTICLE 22(1)**Context:**

- The Supreme Court held that an arrested person is entitled to immediate release if they are kept in the dark about the grounds of arrest or denied access to a lawyer of their choice, as guaranteed under **Article 22(1)** of the Constitution.

**What is Article 22(1)?**

- Article 22(1) provides constitutional protection to a person who is arrested.
- It states that an arrested person:
 - Must be informed of the grounds of arrest as soon as possible.
 - Has the right to consult and be defended by a legal practitioner of their choice.

Why Must Grounds of Arrest Be Given?

- Understand why they have been arrested.
- Consult a lawyer effectively.
- Challenge the legality of the arrest before a court.
- Exercise other constitutional and legal remedies.
- Therefore, communicating the grounds is not merely a procedural formality, but an important safeguard for personal liberty.

Supreme Court's Key Observations

The Court clarified that:

- Written communication of the grounds of arrest is necessary.
- Simply telling the accused the grounds orally is not enough.
- The grounds should be communicated in a manner and language that the accused can understand.

- If the constitutional requirement is violated, the arrest can be held illegal and the person may be entitled to release.

What if Police Want to Re-arrest?

- Release due to violation of Article 22(1) **does not permanently protect an accused from arrest.**
- For re-arrest:
 - The written grounds of arrest must first be furnished.
 - Police must approach the **concerned Judicial Magistrate.**
 - The application must explain why the grounds were not supplied during the first arrest.
 - The Magistrate must be satisfied that there are **bona fide reasons** and that re-arrest is necessary.
 - The investigation must be transferred to **another officer.**
 - Departmental inquiry can be initiated against the officer responsible for the violation.

Article 22: Important Safeguards	
Constitutional protections available to a person on arrest and detention, along with the exceptions where these safeguards do not apply.	
Provision	Key Guarantee
Article 22(1) RIGHTS ON ARREST	INFORM Right to be informed of the grounds of arrest as soon as may be, in writing. DEFEND Right to consult and be defended by a legal practitioner of choice.
Article 22(2) 24-HOUR RULE	PRODUCE Mandates production of the arrested person before the nearest Magistrate within 24 hours of arrest (excluding journey time).
Article 22(3) EXCEPTIONS	EXCLUDED Safeguards under 22(1) and 22(2) do not apply to: - Enemy aliens - Persons detained under preventive detention laws

1.9. ELECTION COMMISSION'S POWER TO RESOLVE PARTY SYMBOL DISPUTES

Context:

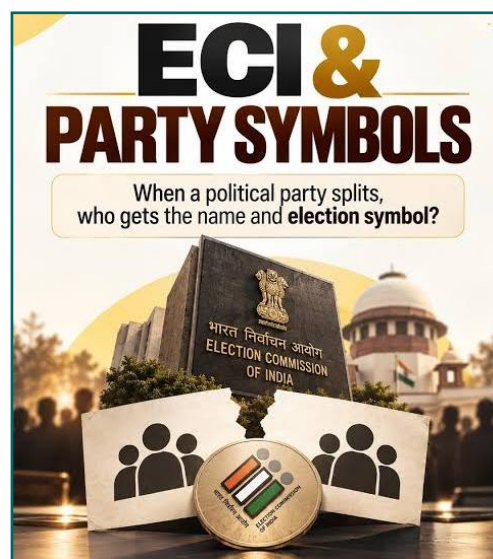
- Recently**, a petition was filed in the Supreme Court by a political leader challenging the Election Commission's (ECI) interim decision to **freeze a political party's symbol** and allot separate temporary names and symbols to rival factions under the **Election Symbols (Reservation and Allotment) Order, 1968.**

Allotment and Freezing of Election Symbols

- Statutory Framework:** The allocation, reservation, and freezing of party symbols are governed by the **Election Symbols (Reservation and Allotment) Order, 1968.**
- Power of the Election Commission:** Under **Paragraph 15** of the 1968 Order, the ECI is the sole authority to decide disputes regarding recognized political parties that split into rival groups or factions.
- Binding Decision:** The decision of the Election Commission in such disputes is legally binding on all rival sections/factions.

How Does the ECI Resolve Party Symbol Disputes?

- The **Election Commission of India (ECI)** derives its authority from:
 - Article 324** - Gives the ECI superintendence, direction and control over elections.
 - Representation of the People Act, 1951** - Provides the framework for political parties.



- **Election Symbols Order, 1968** - Governs party recognition and symbol allotment. **Paragraph 15** empowers the ECI to decide which faction represents a recognised party and is entitled to its **reserved symbol**; the decision is subject to **judicial review**.

When a Party Dispute Cannot Be Resolved Before an Election

- If the ECI cannot decide a party dispute before an imminent election, it may **freeze the existing party name and reserved symbol temporarily**.
- Neither faction can use the frozen name or symbol.
- Factions receive **separate temporary names**.
- Each is allotted/allowed to choose a **different free symbol**.
- The arrangement remains in force **until the dispute is finally decided**.

How Does the ECI Decide the “Real” Party?

- The Supreme Court held that when determining which faction constitutes the party, the **numerical strength of the rival groups is an important factor**, as the Commission has to determine which group substantially constitutes the party.
- The ECI may consider:
 - **Party Constitution** - Compliance with organisational rules.
 - **Organisational Support** - Support among office-bearers, members and delegates.
 - **Legislative Support** - Support among elected MPs and MLAs.

What Happens to the Losing Faction?

- The recognised faction retains the **party name and reserved symbol**.
- The other faction cannot use that reserved identity.
- It may continue as a **separate party with a new name and symbol**.
- Future **State or National party recognition** depends on its subsequent electoral performance.

1.10. FCRA AMENDMENT: FOREIGN FUNDING & CIVIL SOCIETY REGULATION

Context:

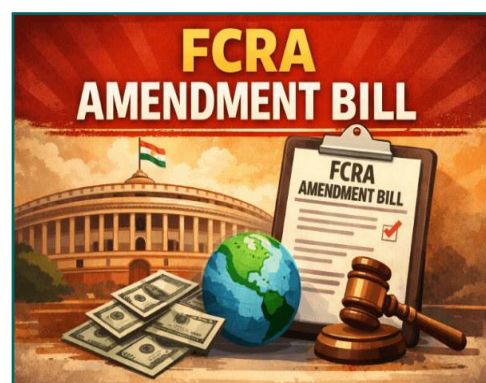
- The proposed **Foreign Contribution (Regulation) Amendment Bill, 2026** mandates immediate state vesting of NGO assets upon registration cancellation. This legislative tightening coincides with the voluntary withdrawal of international donors, shifting the survival burden onto India's emerging **domestic philanthropy** sector.

Introduction

Enacted in 1976 to shield domestic institutions from **foreign destabilisation**, the **FCRA** faces a modern overhaul to curb allegedly opaque financial networks. This stringent regulatory approach raises acute concerns over balancing strict **national security** measures with the uninterrupted delivery of vital **grassroots welfare services**.

What Does the FCRA Amendment Bill 2026 Propose?

1. **Vesting on Cancellation:** All **foreign contributions** and created assets immediately vest in a government **designated authority** upon certificate cancellation, surrender, or lapse.



2. **Provisional vs. Permanent Vesting:** Assets are returned if registration is restored within a prescribed period; otherwise, they undergo **permanent government vesting**.
3. **Asset Liquidation:** Unrestored assets may be sold or transferred, with proceeds credited directly to the **Consolidated Fund of India**.
4. **Statutory Remedies:** Provides a formal legal recourse mechanism via explicit **appeals to the District Judge**.

Why Are Tighter Controls Being Proposed?

1. **Opaque Financial Channels:** The government flags thousands of crores in unmonitored capital entering under the guise of **social welfare**.
2. **Bypassing State Oversight:** Significant capital inflows deliberately evade official **state accounting mechanisms** and fiscal scrutiny.
3. **Targeted Diversion:** Intelligence suggests funds are redirected toward **politically charged advocacy**, selective protests, and aggressive **religious conversion networks**.

Significance of the Foreign Funding Debate

1. **Safeguarding National Security:** Precludes adverse foreign powers from using unaccounted capital to influence **domestic policy** and political stability.
2. **Operational Flexibility:** Foreign aid offers crucial **flexible operational expenditure** that is tailored directly to specific local NGO needs.
3. **Frontline Welfare:** Sustains non-profit schools, hospitals, and care homes that function as **sole service providers** in remote tribal regions.
4. **Mobilising Domestic Philanthropy:** Promotes indigenous alternative funding, with mandatory corporate **CSR spending** reaching ₹22,563 crore in FY25.

Challenges to the FCRA Amendment Bill, 2026

1. **Vesting Precedes Adjudication:** Immediate asset confiscation occurs prior to the judicial hearing of statutory appeals by the **District Judge**.
2. **Disruption of Essential Services:** Abrupt takeovers force clinics and schools to halt operations, penalizing **vulnerable beneficiaries** before culpability is established.
3. **Irreversibility of Liquidated Funds:** Sale proceeds entering the **Consolidated Fund of India** cannot be refunded administratively, even if registration is eventually restored.
4. **Domestic Philanthropy Mismatch:** Expanding domestic donors and tech philanthropists disproportionately prioritize **higher education and ecosystem building**, starving traditional grassroots welfare.

Way Forward

1. **Suspend Premature Vesting:** Defer the vesting of assets until statutory appeals are fully adjudicated, utilizing an **interim court-appointed receiver** in the interim.
2. **Ring-Fence Frontline Assets:** Allow district administrations to temporarily manage operational schools and clinics to prevent the shutdown of **essential public services**.
3. **Dedicated Escrow Accounts:** Retain asset liquidation proceeds in independent **escrow mechanisms** outside the Consolidated Fund until judicial finality is reached.

4. **Permit Regulated Sub-Granting:** Reintroduce structured, traceable sub-granting frameworks under a **light-touch regulatory regime** to support small grassroots bodies.
5. **Channel CSR to Traditional Welfare:** Formulate policy incentives encouraging corporate donors to deploy **CSR capital** into basic rural healthcare, primary education, and disability care.

Conclusion

Balancing **national sovereignty** with a vibrant civil society requires institutional safeguards that strictly preserve the operational autonomy of genuine non-profit entities. As global capital recedes, fostering an enabling and flexible **domestic philanthropy** ecosystem is crucial to sustain India's vital **grassroots developmental architecture**.

1.11. ANTI-DOPING REGULATION AND SPORTS INTEGRITY IN INDIA

Context:

- India faced renewed global scrutiny after at least **13 athletes tested positive** for banned substances ahead of the Commonwealth and Asian Games, resulting in squad exclusions. With the **Athletics Integrity Unit (AIU)** categorizing India as a **high-risk doping nation**, structural reforms in enforcement and compliance have become an urgent priority.



Introduction

Doping violates the core tenets of **fair play**, threatens **athlete health**, and erodes national sporting credibility. While India introduced the **National Anti-Doping (Amendment) Act, 2025** to empower domestic oversight, eliminating performance-enhancing drugs (PEDs) requires addressing **fiscal constraints, supply chain trafficking**, and **institutional autonomy**.

What is Doping?

- **Doping** is the use of prohibited substances (e.g., **anabolic steroids, hormones, stimulants**) or prohibited methods (e.g., **blood doping, gene doping**) to artificially enhance athletic performance.
- It encompasses diverse **Anti-Doping Rule Violations (ADRVs)**, including test evasions, sample tampering, possession, and illicit substance trafficking.
- Beyond competitive distortion, doping induces severe **cardiovascular disorders, hormonal imbalances**, and permanent organ toxicity.

Legislative and Institutional Basis

- The **National Anti-Doping Act, 2022** provided India's first statutory framework, recently reinforced by the **National Anti-Doping (Amendment) Act, 2025**.
- The legislation aligns domestic enforcement with the **World Anti-Doping Agency (WADA) Code** and the **UNESCO International Convention against Doping in Sport**.
- It establishes a two-tiered statutory hierarchy: the **National Board for Anti-Doping in Sports** as the policy and supervisory body, and the **National Anti-Doping Agency (NADA)** as the primary enforcement authority.
- Provides legislative sanction for **out-of-competition testing**, intelligence gathering, investigation, and disciplinary appeals.

Significance of a Robust Anti-Doping Architecture

1. Upholding Sporting Ethics and Fair Play

- It protects natural athletic merit by ensuring a **level playing field** free from pharmacologically manipulated outcomes.
- This preserves the foundational spirit of sports and restores public trust in domestic competitive tournaments.

2. Athlete Welfare and Health Security

- Strict deterrence prevents athletes from suffering long-term, irreversible **cardiovascular and physiological damage**.
- It shifts the ecosystem's focus toward **scientific training**, proper nutrition, and medical safety.

3. Boosting National Soft Power and Hosting Credentials

- Clean sporting credentials enhance India's international standing as an aspiring host for mega-events like the **Commonwealth Games** and **Olympics**.
- Eliminating systemic doping prevents embarrassing international disqualifications and downgrades.

4. Compliance with International Obligations

- A credible framework fulfills mandatory commitments under the **UNESCO Convention** and **WADA standards**.
- It prevents Indian sports bodies from facing global sanctions, bans, or neutral-flag restrictions.

5. Safeguarding Grassroots Talent

- It prevents honest, clean athletes—particularly from economically vulnerable backgrounds—from being sidelined by peers using illicit substances.
- Promotes equitable socio-economic mobility through fair, transparent sports recruitment quotas.

Challenges Associated with Anti-Doping Regulation in India

1. Deficit of Functional Autonomy

- Continued administrative and executive reliance on government departments limits **NADA's operational independence**.
- True deterrence requires an arm's-length regulatory separation similar to statutory financial and market watchdogs.

2. Institutional and Fiscal Under-Resourcing

- NADA remains **chronically understaffed**, curtailing sample collection across India's vast geography.
- Rising testing costs coupled with recent **budgetary cuts** restrict widespread testing at district and state levels.

3. Distorted Cash-Incentive Frameworks

- Massive, front-loaded **state cash awards** and secure government jobs for medalists incentivize athletes and coaches to take shortcuts.
- High financial stakes create a high-reward environment that outweighs the perceived risk of getting caught.

4. Unregulated Illicit Supply Chains

- India has emerged as a major consumption and transit hub for **black-market PED syndicates**.
- Inadequate inter-agency coordination between drug control departments and border customs facilitates cheap availability.

5. Apathy of National Sports Federations (NSFs)

- Federations frequently lack internal monitoring mechanisms and show administrative reluctance to expose violations.
- Support staff, personal coaches, and medical practitioners often escape accountability while individual athletes bear the entire burden of penalties.

Global Best Practices

1. United States – The Rodchenkov Anti-Doping Act

- Extends **extraterritorial criminal jurisdiction** over international doping conspiracies that affect major competitions involving U.S. athletes or sponsors.
- Criminalizes the **illicit support ecosystem** (doctors, trainers, and officials) rather than punishing only the athletes.

2. Kenya – Inter-Agency Enforcement and Border Interdiction

- Deploys specialized police intelligence units working alongside anti-doping authorities to crack down on the **unauthorized importation of PEDs**.
- Imposes strict custodial sentences and criminal liabilities on pharmaceutical distributors supplying banned substances to competitors.

Way Forward

1. Operationalize the 2025 Statutory Mandates

- Strictly enforce the investigative powers under the **National Anti-Doping (Amendment) Act, 2025** to conduct intelligence-led search and seizure operations.
- Ensure that the National Board for Anti-Doping functions as an effective appellate and supervisory mechanism.

2. Insulate Institutional Independence

- Grant statutory, financial, and operational autonomy to **NADA**, insulating it from sports ministry and federation influence.
- Institute dedicated, non-lapsable funding lines to meet escalating **accredited laboratory testing expenditures**.

3. Criminalize PED Trafficking and Networks

- Enact targeted legal provisions to impose **criminal liability on suppliers, handlers, and coaches** facilitating doping networks.
- Integrate state law enforcement and the **Central Drugs Standard Control Organisation (CDSCO)** into anti-doping supply audits.

4. Restructure Athletic Incentive Frameworks

- Shift medal incentives toward **phased endowments, pensions, and long-term training grants** rather than one-time cash windfalls.
- Condition incentive disbursements on consecutive, post-competition negative dope tests over multi-year windows.

5. Enforce NSF Accountability Audits

- Link public funding, tax exemptions, and government recognition of **National Sports Federations** directly to their anti-doping compliance records.
- Mandate independent integrity officers inside every recognized national sports body.

6. Institutionalize Grassroots Education

- Scale values-based educational campaigns like **#PlayTrue** across youth sports academies, rural school meets, and district championships.
- Educate young competitors on the dangers of tainted supplements, inadvertent ingestion, and contaminated medication.

Conclusion

India's emergence as a premier global sporting power depends on institutional integrity alongside medal tallies. Eradicating systemic doping requires combining the statutory powers of the **2025 Amendment** with **uncompromising regulatory autonomy**, relentless supply interdiction, and cultural reform across the athletic ecosystem.

INTERNATIONAL RELATIONS

2.1. INDIA-BELGIUM RELATIONS: STRATEGIC, DEFENCE & ECONOMIC COOPERATION

Context:

- Recently, the Belgian Prime Minister Bart De Wever visited India at the invitation of Prime Minister of India. The visit resulted in a wide-ranging India-Belgium Joint Statement covering strategic, economic, defence, technology, energy and people-to-people cooperation.



Historical Foundations & Shared Legacy

- World War I Sacrifice:** Both leaders honoured the sacrifice of over 9,000 Indian soldiers in the **Flanders Fields** during WWI. Institutional linkages continue between the **Flanders Fields Museum** (Ypres) and the **Centre for Armed Forces Historical Research (CAFHR)** in New Delhi.
- Diplomatic Milestones:** Belgium was among the earliest European nations to establish diplomatic ties with India in 1947.

Strategic Bilateral Mechanisms & Multilateral Alliances

- Strategic Dialogue:** Established in **Brussels (July 2026)** to strengthen trade, security and technology ties.
- Investment Fast-Track:** SFPIM–NIIF cooperation to ease regulatory hurdles and promote the **Indo-Belgian Economic Corridor**.
- UNSC:** Mutual support for **India (2028–29)** and **Belgium (2037–38)** non-permanent seats; Belgium backed India's permanent membership in a reformed UNSC.
- Counter-Terrorism:** Proposed a **Joint Working Group**; CBI–Belgian Federal Police MoU targets organized and cybercrime.

Trade, Maritime Infrastructure & Economic Growth

- Bilateral Trade Target:** Explicit commitment to **double bilateral trade within the next 5 years**.
- Diamond Trade Synergy:** Endorsed the historic economic pipeline connecting **Antwerp** (Belgium) with **Mumbai** and **Surat** (India).
- Maritime & Port Development:**
 - Sagarmanthan: The Great Oceans Dialogue:** Planned participation of Flanders leadership in New Delhi (Oct 2026).
 - APEC-JNPA Collaboration:** Capacity building between APEC (Antwerp/Flanders Port Training Centre) and India's **Jawaharlal Nehru Port Authority (JNPA)**.

Astronomy, Science & Emerging Technologies

- BINA Framework:** Scientific cooperation anchored under the **Belgo-Indian Network for Astronomy and Astrophysics (BINA)**. Belgian collaboration supports landmark Indian facilities:
 - Devasthal Optical Telescope** (Uttarakhand)
 - Devasthal International Liquid Mirror Telescope (ILMT)** (Uttarakhand)
 - Mount Abu Telescope** (Rajasthan)

- **Multi-Application Solar Telescope (MAST)** (Udaipur, Rajasthan)
- **Semiconductor Integration:** Engagement between Indian entities (**ChipIn Centre, C-DAC**) and Belgium's **imec** (a premier research hub in nanoelectronics and digital tech).
- **Innovation & Startups:** Bilateral tie-ups between **MEITY Start Up Hub** (India) and **Hub Brussels** (Belgium).

Clean Energy Transition & Climate Action

- **Renewed Green Hydrogen Framework:** Expanded MoU on Renewable Energy covering green hydrogen, offshore wind energy, solar energy, bio-energy, and pumped storage.
- **Hydrogen Value Chain:** Collaboration driven by **GH2 India**, the **Belgian Hydrogen Council**, and **Flanders Investment & Trade**.
- **Climate Governance:** Shared commitment to the Paris Agreement, BBNJ (Biodiversity Beyond National Jurisdiction) Agreement, and ocean governance ahead of COP31.

Defense Collaboration & Talent Mobility

- **Defense Letter of Intent (LoI):** Framework for staff talks, military training exchanges, co-production, and joint R&D. Includes student exchanges with the **College of Defence Management (Secunderabad)** and the Belgian Defence College.
- **Naval Engagement:** Resident **Defence Attachés** in Brussels/New Delhi and Belgian frigate **LEOPOLD I** visit.
- **EU Legal Gateway:** Pilot initiative to facilitate EU mobility for **skilled workers, nurses, researchers and students**.

2.2. SCO SUMMIT 2026: INDIA CALLS FOR DISMANTLING TERRORISM ECOSYSTEM

Context:

- Recently, at the **26th SCO Summit in Bishkek, Kyrgyzstan**, Prime Minister of India called for dismantling the **entire ecosystem of terrorism**, including **terror financing, recruitment, radicalisation and safe havens**.
- The year **2026 marks the 25th anniversary of the SCO**, with leaders discussing its future roadmap for **peace, security, stability and prosperity** in the region.



Key Outcomes & Highlights

- **Bishkek Declaration:** Adopted alongside 4 MoUs and over 20 decisions/statements covering climate action, energy conservation, nuclear safety, and combating drug trafficking.
- **SCO Chairmanship Transition:** Kyrgyzstan concluded its presidency, handing over the SCO Chairmanship for 2026–27 to **Pakistan**.
- **Stand on Global & Regional Security:**
 - **Afghanistan:** Called on the Taliban administration in Kabul to establish an **inclusive government** representing all ethno-political groups and highlighted drug trafficking as a regional security threat.
 - **West Asia & Persian Gulf:** Expressed deep concern over instability in West Asia, noting its adverse impacts on maritime safety, global supply chains, and energy security.

- **Global Defense Initiatives:** Criticized the unilateral deployment of global missile defense systems by certain nations as a factor destabilizing international security.

India's Core Agenda & Proposals

- **Pillars of Engagement:** Reaffirmed commitment to the vision of **Security, Connectivity, and Opportunity** across Eurasia.
- **Zero-Tolerance on Terrorism:** Demanded dedicated international action to dismantle the terror ecosystem (financing, recruitment, and safe havens) with **no double standards**.
- **Sovereignty in Connectivity:** Supported infrastructure and economic trade corridors while emphasizing that all connectivity initiatives must strictly respect national sovereignty and territorial integrity.
- **India-Led Flagship Initiatives Finalized:**
 1. Inclusion of **English** as an Official Language in the SCO Charter.
 2. Launch of the **SCO Civilisation Dialogue Forum** (First edition to be hosted by India).
 3. Establishment of the **SCO Young Scientist Forum** and **Young Author's Conclave**.

About Shanghai Cooperation Organization (SCO)

- **Establishment:** SCO was established in **2001** in Shanghai.
- **Founding Members:** China, Kazakhstan, Kyrgyzstan, Russia, Tajikistan and Uzbekistan.
 - **Expanded Members:** India (2017), Pakistan (2017), Iran (2023), Belarus (2024).
- **Headquarters:** Beijing, China.
- **Nature:** SCO is a **permanent intergovernmental international organization** focused on regional cooperation.
- **Core Focus:** Cooperation in areas such as security, counter-terrorism, economic cooperation, connectivity and cultural exchanges.
- **Official Languages:** Chinese and Russian have traditionally been the official languages of the SCO; the 2026 **Bishkek Summit** supported/endorsed the inclusion of English as an official language.
- **Highest Decision-Making Body:** The Council of Heads of State (CHS) is the highest decision-making body. It determines the priorities and major directions of SCO activities and **meets once a year**.
- **Regional Anti-Terrorist Structure (RATS):** Located in Tashkent, Uzbekistan; facilitates cooperation against the "Three Evils" — terrorism, separatism and extremism.

2.3. INDIA-U.S. ARMIES COMMENCE EXERCISE YUDH ABHYAS 2026

Context:

- The Indian and U.S. Armies have commenced the 22nd edition of Exercise Yudh Abhyas 2026, the exercise focuses on high-altitude warfare, long-range precision fires, counter-drone capabilities, and enhanced operational interoperability.

About Yudh Abhyas

- Yudh Abhyas is an **annual bilateral Army exercise** between **India and the United States**.



- It has been conducted **since 2004**, with the venue generally alternating between India and the U.S.
- The **21st edition (2025)** was held at **Fort Wainwright, Alaska**, involving the Indian Army and the U.S. Army's **11th Airborne Division**.
- The exercise aims to enhance **interoperability, joint operational capabilities and sharing of military best practices**.

Key Features of Yudh Abhyas 2026

- Focus on **long-range precision fires**, integrated command-and-control and **counter-drone capabilities**.
- The exercise is being conducted in **two theatres—Mahajan Field Firing Ranges in Rajasthan and Auli in Uttarakhand**, combining desert and high-altitude operational environments.

Major India–USA Military Exercises

Exercise	Participating Forces	Key Focus
Yudh Abhyas	Indian Army + U.S. Army	Joint land warfare, interoperability
Vajra Prahar	Indian Army Special Forces + U.S. Special Forces	Special operations, counter-terrorism
Tiger Triumph	Tri-Service	Amphibious operations + HADR
Cope India	Indian Air Force + U.S. Air Force	Air combat and air operations
Red Flag	Indian Air Force + U.S. Air Force and other countries	Multinational air combat training
Tiger Claw	Indian Air Force + U.S. Air Force Special Forces	Airborne/Special Forces operations
Malabar	India + USA + Japan + Australia	Naval/maritime operations

2.4. NORTH KOREA'S NUCLEAR PROGRAMME AND URANIUM ENRICHMENT

Context:

- Recently, The **International Atomic Energy Agency (IAEA)** has reported that North Korea is expanding its uranium-enrichment infrastructure, including a **new enrichment facility at the Yongbyon nuclear complex** capable of accommodating up to **28 gas-centrifuge cascades**.



What has the IAEA found?

- A new two-storey uranium-enrichment building has been identified at Yongbyon.
- The facility has been designated Yongbyon Uranium Enrichment Facility 2 (UEF2) by the IAEA.
- It can accommodate up to **28 centrifuge cascades**.
 - Since a **single centrifuge cannot achieve** the required enrichment, many centrifuges are connected in stages to form a cascade, progressively increasing the U-235 concentration.
- The IAEA also found indications of expanded operations at the Kangson **Uranium Enrichment Facility**.

Why is Uranium Enrichment Important?

- In nature, mined uranium consists of about 99.3% non-fissionable Uranium-238 and only **0.7% fissionable Uranium-235**.
- Enrichment increases the U-235 concentration, making uranium suitable for many nuclear applications.
- **Types of Enriched Uranium**
 - **Low-Enriched Uranium (LEU, 3–5% U-235):** Mainly used as fuel in civilian nuclear power reactors.
 - **High-Assay Low-Enriched Uranium / Medium Enrichment (5–20% U-235):** Used in advanced/research reactors and some naval applications.
 - **Highly Enriched Uranium (HEU, 20% to 90%+ U-235):** Used for certain specialized reactor applications; at around 90% U-235, it is generally considered weapons-grade.

About IAEA

- **Established:** 1957
- **Headquarters:** Vienna, Austria
- **Nature:** Intergovernmental organisation within the UN family; works as the world's "Atoms for Peace and Development" organisation.
- **Members:** 180+ Member States.
- It reports to **both the UNGA and the UN Security Council**.
- **General Conference:** Highest policy-making body; includes all Member States.
- **2005 Nobel Peace Prize:** Awarded jointly to the IAEA and Mohamed ElBaradei for efforts to prevent nuclear energy from being used for military purposes.

Core Objectives

- **Peaceful Use of Nuclear Energy:** Promotes safe, secure and peaceful applications of nuclear technology.
- **Nuclear Safety:** Develops international **safety standards** for nuclear facilities and activities.
- **Nuclear Security:** Helps prevent nuclear and radioactive materials from being used for malicious purposes.
- **Nuclear Safeguards:** Verifies that nuclear material is **not diverted from peaceful uses to nuclear weapons programmes**.
- **Technology & Development:** Supports nuclear applications in **health, agriculture, water, food and industry**.

IAEA & NPT

- **NPT = Treaty on the Non-Proliferation of Nuclear Weapons (1968).**
- IAEA safeguards help verify compliance with the NPT's **non-proliferation obligations**.
- **India is not a party to the NPT**, but India has an **IAEA safeguards agreement** covering its designated civilian nuclear facilities.
- **North Korea joined the NPT in 1985**, but later announced its withdrawal and has subsequently operated outside the treaty framework.
- **Important:** IAEA **does not itself impose sanctions**; the **UN Security Council** can take enforcement action.

2.5. THE HAGUE COURT AND THE KOSOVO WAR

Context:

- Hashim Thaçi, the former President of Kosovo and a prominent former leader of the Kosovo Liberation Army (KLA), has been sentenced to 25 years in prison by special European Union-backed court at The Hague.

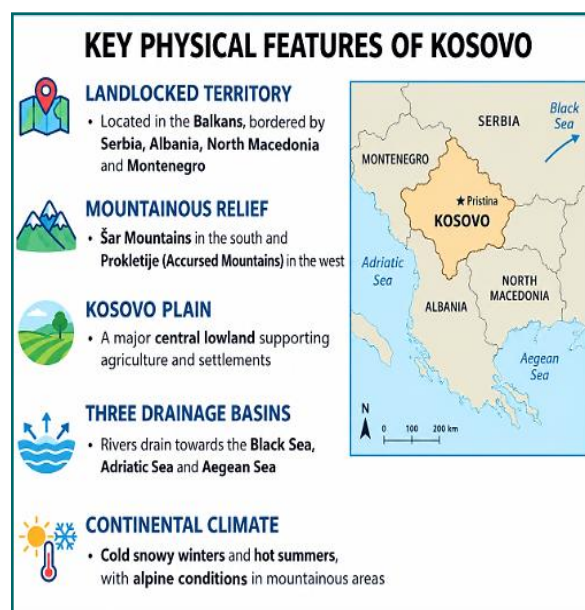


Escalation of Conflict & Kosovo's Independence

- The Kosovo Liberation Army (KLA) was formed — an ethnic Albanian militant force seeking Kosovo's independence from Serbia and Yugoslavia.
- War & Intervention: KLA attacks** triggered a **Serbian military crackdown**, causing the displacement of **hundreds of thousands** and nearly **13,000 deaths**, mostly ethnic Albanians.
- NATO Intervention:** The hostilities ended after NATO launched air strikes and bombardments against Serbian targets, forcing Serbian forces to withdraw.
- Declaration of Independence:** In 2008, Kosovo unilaterally declared independence from Serbia. While recognized by the United States and several European nations, it is not recognized as an independent state by Serbia, **India, or the United Nations**.

What Was the Trial For?

- The case was heard by the **Kosovo Specialist Chambers**, a special tribunal backed by the European Union and constituted in **The Hague in 2016**.
- Its mandate was to examine crimes linked to the KLA's insurgency and the broader conflict of the 1990s.
- The tribunal's creation followed a Council of Europe report (the "Marty report," 2010) that alleged the KLA had run secret detention centres where Serbians were subjected to inhumane treatment, including claims of organ trafficking from prisoners.



What is the Kosovo Specialist Chambers?

- The KSC is a specialized domestic (national) court of Kosovo, not a UN or international tribunal.
- While legally attached to Kosovo's judicial hierarchy, it is physically located in **The Hague, Netherlands**.
- The KSC was created following an Exchange of Letters between Kosovo and the European Union in 2014.
- The Kosovo Assembly subsequently adopted Article 162 of the Kosovo Constitution and the Law on Specialist Chambers and Specialist Prosecutor's Office on 3 August 2015.

Structure of the KSC; The KSC consists principally of:

1. Chambers

- Perform the **judicial functions**.
- Include **international judges**.
- Have panels for **Pre-Trial, Trial, Appeals, Supreme Court and Constitutional Court** functions.

2. Registry

- Provides administrative and judicial support
- Handles functions including **detention, legal aid, victims' participation, interpretation and translation.**

2.6. SOHAR PORT

Context:

- Amid disruptions around the **Strait of Hormuz**, Oman's **Sohar Port** is gaining importance as an alternative maritime gateway for **Indian cargo to GCC countries.**

About Sohar Port

- A **deep-sea commercial port and industrial free zone** in northern Oman.
- Located in the **Wilayat of Liwa, Al Batinah North Governorate**, Oman.
- Situated on the **Gulf of Oman**, outside the **Strait of Hormuz**, with access to the **Arabian Sea.**



Key Features

- **Strategic Location:** Provides maritime access without vessels having to pass through the **Strait of Hormuz.**
- **Deep-water Port:** Has berths capable of handling **large bulk carriers**, including Valemax-class vessels.
- **Integrated Industrial Zone:** Major clusters include **Logistics, Petrochemicals, Metals and Food.**
- **Multimodal Connectivity:** Road links connect Sohar with **UAE, Saudi Arabia, Qatar, Bahrain and Kuwait**, enabling onward movement of cargo by land.

Strategic Significance

- Sohar provides an **alternative logistics corridor** for trade between India and the Gulf, particularly during disruptions in the **Strait of Hormuz.**
- It can also complement India's wider connectivity initiatives in West Asia, including the **India–Middle East–Europe Economic Corridor (IMEC).**

2.7. THE 1991 AGREEMENT ON ADVANCE NOTICE ON MILITARY EXERCISES

Context:

- Recently, India summoned Pakistan's envoy after a Pakistani naval vessel collided with an Indian warship in the North Arabian Sea, with New Delhi terming the manoeuvre unsafe and citing a violation of the three-nautical-mile provision under the **1991 India–Pakistan maritime pact.** No major damage was reported



About the 1991 Agreement

- **Military Exercises:** Major exercises near each other's territory should be avoided; where conducted, they must follow prescribed rules and be notified in advance
- **Advance Notice:** **15 days** for specified air and naval exercises, **60 days** for corps-level exercises and **90 days** for army-level exercises
- **Information Sharing:** Either side can seek details on the **force assembly, direction, scale and duration** of an exercise
- **Major Naval Exercise:** Defined as an exercise involving **six or more destroyer- or frigate-sized combat vessels** operating together and entering the other country's EEZ
- **Article 10:** Naval ships and submarines of both countries must maintain a minimum distance of **3 nautical miles** from each other while operating in international waters to prevent accidents
- **Aircraft Separation:** Combat aircraft must maintain a **10-km separation** from each other's airspace, including Air Defence Identification Zones (ADIZs)
- **Special Provision:** A **5-km separation** applies to aircraft operating from specified airfields, including **Jammu, Pathankot, Amritsar and Suratgarh** in India and **Pasrur, Lahore, Vehari and Rahimyar Khan** in Pakistan

2.8. U.S.–DENMARK GREENLAND SECURITY AGREEMENT

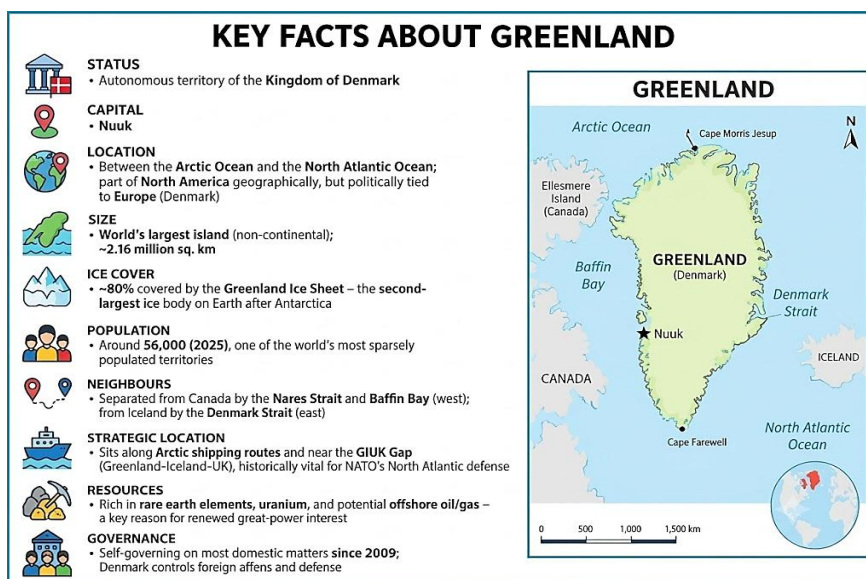
Context:

- Recently, the United States, Denmark and Greenland signed an agreement to amend the 1951 U.S.–Denmark Defence Agreement, expanding U.S. military access in Greenland while reaffirming Danish sovereignty and Greenlandic self-determination.



Key Highlights of the Security Agreement

- **Expanded U.S. Base Access:** Building on the foundational 1951 U.S.-Denmark Defense Agreement, the new deal allows the U.S. to build additional military facilities at **Narsarsuaq** (in the south) and **Mestersvig** (in the east, along the Norwegian Sea), supplementing its existing presence at **Pituffik Space Base**.
- **Third-Country Military Presence:** States that are **not NATO members** will not be allowed to establish their own military installations or maintain a persistent military presence in Greenland, unless otherwise agreed by the parties.



- **Sovereignty & Self-Determination:** Denmark and Greenland retain sovereignty; Greenland can pursue independence and its people would decide any future political status.

Strategic Rationale

- **Arctic geopolitics:** Rising Chinese and Russian activity in the Arctic, plus melting sea ice opening new shipping lanes, has increased the region's strategic salience.
- **Historical base:** The 1951 U.S.–Denmark defense agreement already allowed American bases; this deal builds on and expands that framework.

2.9. BRICS & NEW DEVELOPMENT BANK (NDB)

Context:

- BRICS has gained substantial economic and membership weight but remains under-represented in global financial governance, while internal divisions persist between an anti-Western bloc-oriented approach and India's preference for non-Western multipolarity.



Introduction

BRICS embodies the changing world order—growing economic weight but limited geopolitical cohesion. For India, its value lies in leveraging the NDB for development, financial diversification and Global South cooperation, rather than anti-Western bloc politics.

Why BRICS Matters: World & India

For the World

- **Global Governance:** Pushes for greater representation of emerging economies in **IMF, World Bank and other institutions**.
- **Global South:** Provides a platform for **collective voice on development, trade and finance**.
- **Development Finance:** NDB expands financing for **infrastructure and sustainable development**.
- **Multipolarity:** Promotes a **more diversified global economic order** beyond traditional Western dominance.

For India

- **Strategic Autonomy:** Enables India to engage with both **Western and non-Western powers**.
- **Economic Gains:** Access to **NDB financing, markets and investment opportunities**.
- **Global South Leadership:** Strengthens India's role as a **bridge between developed and developing countries**.
- **China Balancing:** Provides space to **shape BRICS from within**, rather than allowing it to become China-centric.

Structural & Geopolitical Challenges Confronting BRICS

1. **Geopolitical Divergence:** China–Russia–Iran favour an **anti-Western orientation**, while India–Brazil–South Africa advocate **non-Western multipolarity**.
2. **De-dollarisation Dilemma:** Aggressive moves away from the dollar may **conflict with India's strategic and economic interests**.

3. **China-Centricity:** China's **economic and institutional weight** risks giving Beijing disproportionate influence within BRICS.
4. **Institutional Weakness:** Limited consensus and weak coordination can reduce BRICS' ability to **translate declarations into outcomes**.
5. **Expansion–Cohesion Trade-off:** Rapid membership expansion increases **economic and political diversity**, making consensus and collective action more difficult.

NDB: A Practical Solution for BRICS

- **Development over Geopolitics:** NDB can make BRICS more relevant through **infrastructure and sustainable-development finance**, rather than anti-Western politics.
- **Financial Multipolarity:** **Local-currency lending** can reduce excessive dollar dependence without pursuing abrupt de-dollarisation.
- **Global South Financing:** Expanding NDB membership and lending can provide **alternative development finance** to emerging and developing economies.
- **India's Strategic Leverage:** Strengthening NDB allows India to **benefit from BRICS while limiting China-centric financial dominance**.
- **Untapped Potential:** NDB needs **more capital, faster disbursement, wider membership and diversified currency financing** to match institutions like AIIB.

Key Structural & Strategic Challenges of the NDB

1. Capital Constraint

- **Limited capital base** restricts NDB's lending capacity.
- Equal voting shares require **proportionate capital contribution** by founders.
- **Russia's sanctions and financial constraints** make fresh capital mobilisation difficult.

2. Governance–Capital Dilemma

- New members can bring **fresh capital**, but founding BRICS members must retain at least **55% collective voting power**.
- Hence, expanding membership must balance **capital needs with founder control**.

3. Sanctions & Credit-Rating Constraint

- NDB halted new lending to Russia after **March 2022** to protect its **credit rating and access to global funding**.
- Shows that NDB remains constrained by the **global financial and sanctions architecture**.

4. De-dollarisation Contradiction

- BRICS advocates reduced dollar dependence, but NDB itself remains dependent on **dollar funding and global capital markets**.
- **Lesson:** India should promote **currency diversification**, not abrupt de-dollarisation.

5. China-centricity Risk

- Excessive reliance on **RMB-based financing** could increase China's financial influence.
- India should push for **greater use of the rupee and other member currencies**.

Way Forward: Strengthening NDB & BRICS

1. **Strengthen NDB's Capital Base:** Increase paid-up capital and induct **creditworthy developing economies** to expand lending capacity without weakening governance.

2. **Fast-track Rupee Financing:** Operationalise the **rupee bond** and promote local-currency lending to deepen India's bond market and reduce currency risks.
3. **Ensure Currency Diversification:** Promote a **multi-currency NDB**—Rupee, Real, Rand, Renminbi, etc.—rather than replacing dollar dependence with RMB dependence.
4. **Improve Lending Efficiency:** Reduce the gap between **project approval and disbursement** through faster appraisal, stronger project pipelines and better implementation monitoring.
5. **Safeguard Institutional Credibility:** Maintain prudent lending standards and **creditworthiness**, while navigating sanctions and global financial-market constraints.
6. **Expand Global South Outreach:** Increase financing for **infrastructure, climate action and sustainable development** across emerging and developing economies.
7. **Pursue Strategic Autonomy:** India should use BRICS and NDB to advance **multipolarity and Global South representation**, while avoiding both **Western bloc politics and China-centric financial dominance**.

Conclusion

India should seek neither a Western-dominated nor a China-dominated financial order. By transforming the NDB into a well-capitalised, efficient and genuinely multi-currency development bank, India can turn BRICS from a platform of geopolitical contestation into an instrument of constructive multipolarity.

ECONOMY

3.1. RBI'S FOREX SWAP FACILITY AND LIQUIDITY MANAGEMENT

Context:

- According to Reserve Bank of India (RBI) data, the central bank's **special USD-INR forex swap facility**—introduced on June 8 to cushion forex outflows from high global oil prices and foreign capital flight—mobilised over \$136 billion (\$1,36,377 million).



Break-up of the \$136 Billion Mobilised

- FCNR(B) deposits** – \$127,226 million (the largest share)
- OFCBs** (Overseas Foreign Currency Borrowings) – \$5,260 million
- ECBs** (External Commercial Borrowings) – \$3,891 million

Key Financial & Economic Concepts

1. Foreign Currency Non-Resident (Bank) [FCNR(B)] Deposits

- Term deposits maintained in designated foreign currencies (e.g., USD, GBP, EUR) by Non-Resident Indians (NRIs) and Overseas Citizens of India (OCIs).
- Key Feature:** Foreign exchange risk is borne by the bank (or central bank scheme), not the depositor. Principal and interest are fully repatriable.

2. USD-INR Forex Swap Facility

- A monetary tool where the RBI buys foreign currency (USD) from commercial banks in exchange for domestic currency (INR) at the prevailing spot rate, while simultaneously agreeing to sell back the dollars at a future date (forward rate).
- Purpose:** Injects Rupee liquidity into the domestic banking system while augmenting central bank foreign exchange reserves.

3. Short Forward Dollar Position

- Currency derivative contracts where the central bank agrees to sell dollars at a predetermined rate at a future date.
- Strategic Utility:** Defends the domestic currency against depreciation without immediately drawing down spot foreign exchange reserves. As per industry analysis, RBI may utilise incoming foreign currency deposits to settle/close these outstanding short forward obligations.

4. Liquidity & Call Rate Management

- Large foreign currency inflows converted to domestic currency lead to surplus Rupee liquidity in the banking system.
- RBI Action:** The central bank absorbs surplus Rupee liquidity to prevent short-term money market call rates from falling below the policy repo rate, controlling inflationary pressures.

Impact on Domestic Liquidity and the Banking Sector

I. Rupee Influx & Inflation Risk:

- Forex operations can inject **rupee liquidity** into banks.

- Excess liquidity may push the **call money rate below the repo rate** and create inflationary pressures.

II. Sterilisation Measures: RBI absorbs surplus liquidity through tools such as the **Standing Deposit Facility (SDF)** and **repo operations** to maintain its monetary-policy stance.

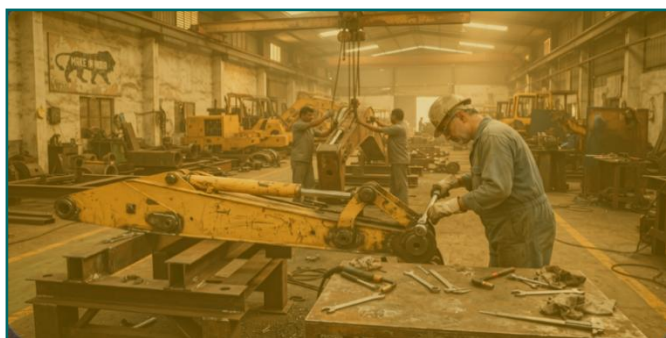
III. Benefits for Banks:

- Greater access to stable, relatively low-cost funds can reduce dependence on **costly wholesale deposits**.
- This can support **domestic credit growth** over the medium term.

3.2. CONSTRUCTION AND INFRASTRUCTURE EQUIPMENT (CIE) SCHEME

Context:

- Recently, the **Union Heavy Industries Minister** stated that the **Construction and Infrastructure Equipment (CIE) Scheme**, announced in the **Union Budget 2026-27**, aims to boost local manufacturing, strengthen domestic supply chains and reduce import dependence.



All about the Construction and Infrastructure Equipment (CIE) Scheme

- **Objective:** Boost domestic manufacturing of high-value **construction and infrastructure equipment** while reducing import dependence.
- **Approach:** Strengthen domestic supply chains and promote greater participation of **MSMEs** in equipment and component manufacturing.

Scale & Scope of the CIE Scheme

- **Broader Programme Under Consideration:** Some reports suggest the Centre is considering a much larger incentive programme with an outlay of **₹11,500 Crore over seven years**.
- **Modalities Pending:** The scheme's exact modalities, including eligibility criteria and the disbursement mechanism, are yet to be finalised.

Rationale: Import Substitution & MSME Participation

- **Import Substitution:** The scheme aims to boost domestic manufacturing capacity, strengthen the local supply chain, and reduce excessive dependence on imported construction equipment.
- **MSME Participation:** The Minister underlined the need for greater participation of **micro, small and medium enterprises (MSMEs)** in the construction equipment value chain.

India's Construction Equipment Industry

- **Global Ranking:** India is the world's **third-largest construction equipment market**, after **China** and the **United States**.
- **Industry Valuation:** The industry was valued at about **₹97,500 crore in 2024-25** and is projected to touch **₹2.28 lakh crore by 2029-30**.
- **Employment:** The sector currently provides direct employment to about **10 lakh people**.

3.3. DIRECT TAX REGIME AND TAXPAYER-FRIENDLY TAX ADMINISTRATION

Context:

- According to recent parliamentary proceedings, the **Parliamentary Standing Committee on Finance** (headed by MP Bhartruhari Mahtab) criticized the current direct tax administration for relying excessively on punitive actions and enforcement overreach.



Key Concerns Raised by the Panel

- Taxpayer Base Asymmetry:** Growing share of Personal Income Tax (PIT) collections relative to Corporate Income Tax (CIT), contrasting with comparable global economies where corporate taxes dominate.
- Bureaucratic & Enforcement Overreach:** Heavy-handed issuance of tax notices, shifting the burden of proof onto taxpayers amid frequent and retrospective rule changes.
- Implementation & Litigation Bottlenecks:** Systemic compliance glitches in tax software and an alarming surge in pending tax litigation cases.

Impact on Domestic Economy and Tax Governance

- Impact on Business Climate:** Excessive administrative notices and punitive measures create compliance stress, raising the risk premium for domestic and foreign investors.
- Tax Fairness:** A widening disparity between individual and corporate tax collections risks distorting fiscal equity, necessitating rationalized tax brackets and streamlined compliance.
- Administrative Reforms:** Transitioning from aggressive enforcement to an automated, faceless, trust-based tax regime is critical to reducing pending litigation and administrative delays.

Key Economic Concepts Need to Know

1. Personal Income Tax (PIT) vs. Corporate Income Tax (CIT)

Basis	Personal Income Tax (PIT)	Corporate Income Tax (CIT)
Meaning	Tax on the income of individuals	Tax on the income/profits of companies
Taxpayer	Individuals, including specified taxpayers such as HUFs	Companies/corporations
Tax base	Individual's taxable income	Company's taxable profits/income
Nature	Generally progressive —higher income can attract higher rates	Generally based on applicable corporate tax rates/regimes
Example	Salary, professional income, capital gains, etc.	Profits earned by a manufacturing or service company
Economic role	Major source of direct tax revenue from individuals	Major source of direct tax revenue from businesses

2. Retrospective Tax (Taxing past transactions)

- Meaning:** A tax law that applies retroactively to transactions or income from the past.
- Purpose:** To impose or clarify a tax liability for transactions that occurred before the law was enacted.

- **Key concern:** It can create uncertainty for investors because past transactions may be taxed under rules introduced later.

About Central Board of Direct Taxes (CBDT)

1. The **Central Board of Direct Taxes (CBDT)** is the statutory authority that heads the **Income Tax Department** in India. It functions under the Department of Revenue within the **Ministry of Finance**.
2. **Function:** Formulates policies, inputs for direct tax laws, and oversees the administration of Personal Income Tax and Corporate Tax.

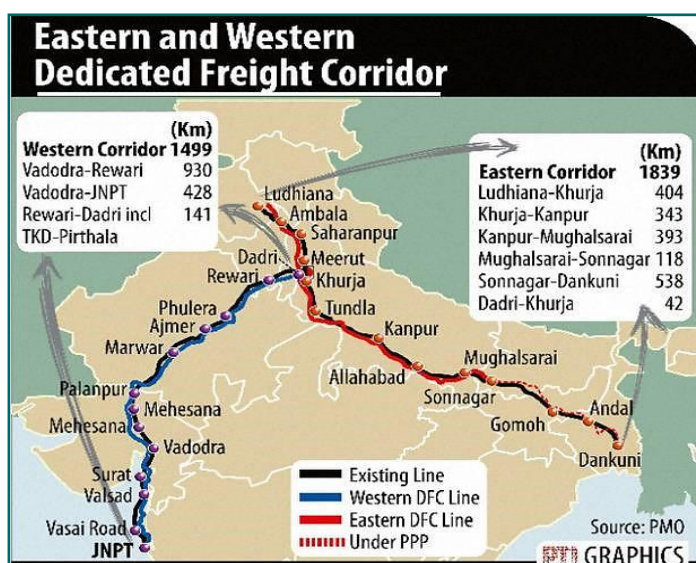
3.4. WESTERN DEDICATED FREIGHT CORRIDOR & MULTIMODAL CONNECTIVITY

Context:

- The Prime Minister inaugurated final key sections of the **Western Dedicated Freight Corridor (WDFC)** connecting Jawaharlal Nehru Port Trust (JNPT) in Navi Mumbai (Maharashtra) to Dadri (Uttar Pradesh), marking the operational completion of the corridor.

What are Dedicated Freight Corridors (DFCs)?

- DFCs are specialized railway tracks designed solely for freight transport. These corridors, utilizing double-stack container and heavy-haul trains, increase capacity and ensure faster freight transit.



Key Features of Western Dedicated Freight Corridor (WDFC)

- **Terminals:** Connects **Dadri (Uttar Pradesh)** to **JNPT (Navi Mumbai, Maharashtra)** spanning approximately 1,504 km.
- **State Coverage:** Traverses 5 major states — **Uttar Pradesh, Haryana, Rajasthan, Gujarat, and Maharashtra**.
- **Funding Agency:** Funded primarily by the **Japan International Cooperation Agency (JICA)**.
- Designed for **double-stack container train operations** using high-reach Overhead Equipment (OHE).
- Maximum design speed of **100 km/h** for freight trains (compared to ~25 km/h average on traditional tracks).

About India's Dedicated Freight Network

- **DFCCIL (Dedicated Freight Corridor Corporation of India Limited):**
 - A Special Purpose Vehicle (SPV) incorporated as a Public Sector Undertaking under the **Companies Act, 1956** (not a statutory body).
 - Functions under the administrative control of the **Ministry of Railways**.
- **Eastern Dedicated Freight Corridor (EDFC):**
 - Connects **Sahnewal/Ludhiana (Punjab)** to **Dankuni (West Bengal)** covering ~1,875 km.
 - Funded primarily by the **World Bank**.

➤ **Present Status of Dedicated Freight Corridor (DFC)**

- DFCs now handle over **10% of Indian Railways' freight**.
- **An average of 325 trains run on DFC tracks daily**, a 60% increase from previous years.
- Since their inception, DFCs have managed **over 232 billion Gross Tonne Kilometres (GTKMs) and 122 billion Net Tonne Kilometres (NTKMs)**, underscoring their role in enhancing rail freight capacity.

Objectives

- **Traffic Segregation:** Separates freight from passenger rail corridors to release capacity on trunk routes.
- **Logistics Cost Reduction:** Targets lowering India's logistics cost from ~13-14% of GDP down to single digits.
- **Decarbonization:** Shift of freight from road to energy-efficient electric rail reduces global greenhouse-gas emissions.
- **Integration:** Key element under the **PM Gati Shakti National Master Plan** for multi-modal connectivity.

3.5. SURGE IN GLOBAL COPPER PRICES & ITS DOMESTIC IMPACT**Context:**

- Copper prices have surged to record levels, with the **London Metal Exchange (LME)** copper touching an all-time high of \$14,779 per tonne, increasing input costs for electric vehicles (EVs), consumer electronics, electrical wires and engineering goods.

**Why are Copper Prices Rising?**

- **LME Benchmark Pressure:** Physical contracts worldwide index directly to London Metal Exchange (LME) prices, which spiked as exchange inventories dwindled.
- **Mine Supply Deficits:** Operational disruptions in top producers like Chile cut concentrate output, creating an upstream supply squeeze.
- **Tariff Stockpiling & Arbitrage:** Front-loaded buying by US importers ahead of anticipated tariffs diverted global flows and depleted spot warehouse stocks.
- **Clean-Tech & AI Demand:** Rapid rollout of copper-heavy EVs, power grids, and AI data centres created structural, long-term consumption pressure.

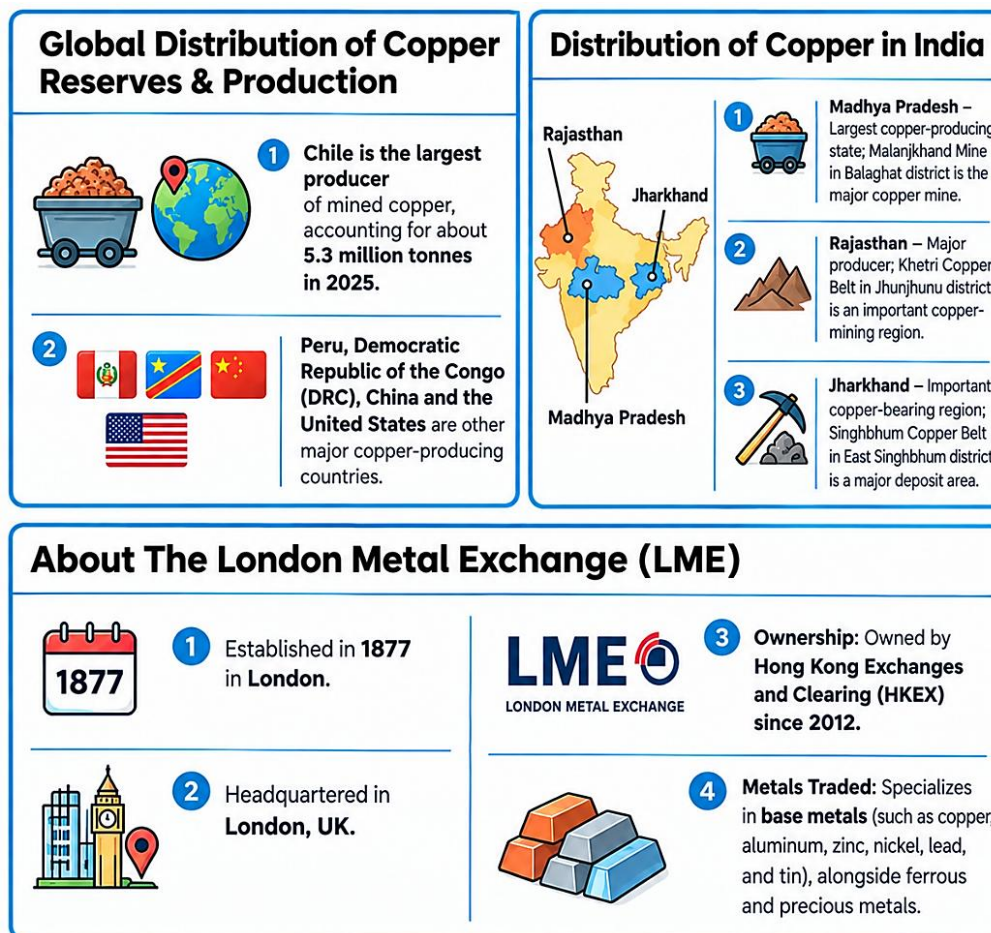
Sectors Affected - Cost Pressure Chain

- **Electric Vehicles (EVs):** Higher input costs for wiring and electric motors.
- **Consumer gadgets and appliances:** Rising component costs.
- **Electric wires and engineering goods:** Direct raw material cost increase.
- Indian industry imports **~85% of its copper requirements**, making India particularly vulnerable to global price cascades.

Aluminium as a Substitute

- Industry (EVIA — Electric Vehicle Industry Alliance) suggests **aluminium** is emerging as an alternative:

- **61% of copper's electrical conductivity.**
- **6× larger cross-sectional area** required for the same electrical load.
- Aluminium conductors therefore need to be larger in size to carry the same electrical load.
- Copper remains difficult to replace in several applications requiring **compactness and high conductivity.**



Impact on Indian Industries

- India imports around **85% of its copper requirements**, making domestic industries vulnerable to global price fluctuations.
- Higher copper prices can raise **input and production costs** for electrical goods, engineering products, **EVs and consumer electronics.**
- The impact is greater in sectors where **copper has limited substitutes**, potentially putting pressure on manufacturers' profit margins.

3.6. EPFO WAGE CEILING RAISED TO ₹25,000

Context:

- Recently, The Union Cabinet has approved an increase in the wage ceiling for mandatory EPFO coverage from ₹15,000 to ₹25,000 per month. The ceiling was last revised to ₹15,000 in September 2014.



What Has Changed?

Earlier	New
₹15,000/month wage ceiling	₹25,000/month
Employees above the ceiling were not automatically covered	Employees earning up to ₹25,000 can come under mandatory EPFO coverage, subject to applicable provisions
Narrower coverage	51 lakh+ additional employees expected to be covered

EPFO and Its Three Key Schemes

- The expansion will extend access, under applicable scheme provisions, to three major components of EPFO social security:
 - Employees' Provident Fund (EPF):** Provides accumulated retirement savings to employees.
 - Employees' Pension Scheme (EPS), 1995:** Provides pension-related benefits to eligible members.
 - Employees' Deposit Linked Insurance Scheme (EDLI), 1976:** Provides insurance benefits linked to the employee's EPF membership.
- EPFO administers these schemes under the **Ministry of Labour and Employment**.

Financial Implication

- The decision is estimated to bring over 51 lakh additional employees under mandatory EPFO coverage.
- The annual Government outgo is estimated at around **₹11,339 crores**, compared with existing annual budgetary support of about **₹10,250 crore**.
- The measure is also expected to strengthen **formalisation of employment** and wider social-security coverage.

EPFO: Contribution Mechanics

Contribution Mechanics

Standard rate — **12% of Basic + DA, contributed by both employee and employer**

Split-up of Employer's 12% share

3.67% EPF

8.33% EPS

EPS portion is subject to the wage ceiling cap

Government Contribution: Central Government contributes **1.16%** of the wage ceiling toward the Employee's Pension Scheme (EPS).

About EPFO

Statutory Body Status:
Established under the Employees' Provident Fund and Miscellaneous Provisions Act, 1952.

Administrative Ministry:
Functions under the administrative control of the Ministry of Labour and Employment.

Mandatory vs. Voluntary: Coverage is **mandatory** for employees earning below the wage threshold; contributions beyond the wage limit are **voluntary**.

3.7. GLOBAL GENDER GAP INDEX 2026

Context:

- Recently, the **World Economic Forum (WEF)** released the 20th edition of the Global Gender Gap Report 2026, benchmarking gender parity across 145 economies, with **India ranking 131st** and closing 64.5% of its overall gender gap against the global average of 69.2%, while Iceland retained the highest position in the index.



What is the Global Gender Gap Index?

- The **Global Gender Gap Index (GGGI)** was introduced by the **World Economic Forum** in **2006** to measure the relative gaps between women and men across key areas of social and economic life.
- Scoring Methodology:** Scores range from **0 to 1** (or 0% to 100%), where **1.0 represents full gender parity** and **0 represents complete disparity**.
- Key Principle:** The index evaluates gender gaps in outcomes rather than the absolute level of available resources or overall development of a nation.

Global Rankings Overview (2026)

- Top Performers:** **Iceland** maintained the **1st rank globally** (the long-standing global leader), followed by **Finland (2nd)** and **Norway (3rd)**.
- Bottom Performers:** **Chad** was the lowest-ranked nation, joined by Iran and Pakistan in the bottom three slots.
- Countries Ranked Below India:** 14 countries scored lower than India, including Papua New Guinea, Kuwait, Oman, Qatar, Tajikistan, Saudi Arabia, Egypt, Morocco, Mali, Algeria, and DR Congo.

Global gender gap index — key dimensions

Economic participation and opportunity

- Labour force participation
- Wage equality
- Earned income
- Leadership positions
- Professional and technical work

Educational attainment

- Literacy rate
- Primary enrolment
- Secondary enrolment
- Tertiary enrolment

Health and survival

- Sex ratio at birth
- Healthy life expectancy

Political empowerment

- Women in Parliament
- Women in ministerial positions
- Years with a female head of state

India's Performance

- India retained the **131st position** with an overall gender parity score of **64.5%**.
- Its score has improved by **4.3 percentage points since 2006**, with much of the long-term improvement coming from **Educational Attainment**.

India's Dimension-Wise Summary

Dimension	Score	Key Takeaway
Political Empowerment	24.5%	Highest rank (67th globally); Parliament (16.1%) and ministerial parity (5.9%) remain low.
Educational Attainment	96.6%	Full parity in secondary and tertiary enrolment; adult literacy lags at 82.5%.

Health and Survival	95.6%	Score improved, but sex ratio at birth remains below the 2006 baseline.
Economic Participation & Opportunity	41.2%	Lowest-performing area; labour force parity stands at 44.1%.

3.8. CAZRI MOTH BEAN VARIETIES

Context:

- **ICAR-CAZRI, Jodhpur** developed four moth bean varieties- **CAZRI Moth-4, 5, 6 & 7**- that withstood a 35-day dry spell during Kharif 2026, showing strong potential for climate-resilient agriculture in western Rajasthan.

What is Moth Bean?

- Moth bean is an important **Kharif pulse crop of the hot arid regions of western Rajasthan**, cultivated over nearly **10 lakh hectares**.
- **Native to South Asia**, it is primarily cultivated in hot, rainfed and marginal desert regions, particularly the Thar Desert of western Rajasthan, as well as parts of Gujarat, Haryana and Punjab.
- Planted at the onset of the monsoon rains around June or July and harvested in September or October.
- Highly drought-resistant and suited for hot, arid, or semi-arid regions.



Significance

- **Nutritional Security:** Provides **plant-based protein, essential amino acids and minerals**, particularly benefiting resource-poor rural communities in desert regions.
- **Livestock Support:** Offers **protein-rich green and dry fodder (pala)** for livestock during **post-monsoon and drought periods**.
- **Dryland Agriculture:** Supports **crop rotation and mixed cropping** while contributing to **sand-dune stabilisation**.
- **Climate Resilience:** Its adaptability to harsh arid conditions strengthens **dryland farming systems** amid increasing climate variability.
- **Pulse Self-Reliance:** Contributes to India's efforts towards **greater self-sufficiency in pulse production**.

About CAZRI

- **Full Name:** Central Arid Zone Research Institute (CAZRI).
- **Headquarter:** Jodhpur, Rajasthan.
- **Ministry:** It is an autonomous organisation under the Department of Agriculture Research and Education (DARE) of the Ministry of Agriculture and Farmers Welfare of Government of India.
- **Focus:** It conducts research on agriculture and natural-resource management in arid and desert regions.
- **Significance:** CAZRI develops climate-resilient crops and technologies suited to the harsh and water-scarce conditions of arid regions.

3.9. UNINCORPORATED SECTOR AND DISTRICT-LEVEL ECONOMIC DATA

Context:

- For the first time, the **National Statistics Office (NSO)** under **MoSPI** released district-level data for small, informal (unincorporated) **non-agricultural** businesses. It uses data from the **Annual Survey of Unincorporated Sector Enterprises (ASUSE) 2025** to help design targeted policies at the local district level.



Key Institutional Survey Facts

Item	Detail
Releasing body	National Statistics Office (NSO) , under MoSPI (Ministry of Statistics & Programme Implementation)
Survey base	ASUSE 2025 (Annual Survey of Unincorporated Sector Enterprises)
Novelty	First-ever district-level estimates from a large-scale nationwide enterprise survey
Districts covered	757 out of 770 districts in the ASUSE 2025 sampling frame
Districts excluded	District-level estimates were not generated for Delhi (due to merged sampling strata) or Chandigarh and Lakshadweep (each treated as a single UT-level stratum)

What ASUSE Covers

- Geographic coverage:** Whole of India, rural and urban (**except some inaccessible Andaman & Nicobar villages**).
- Sectors covered:** **Manufacturing, Trade, and Other Services** (non-agricultural, unincorporated).
- Ownership types covered:** Proprietorship, partnership (**excluding LLPs**), cooperatives, societies/trusts.
- Sampling method:** Multi-stage stratified sampling.
 - First Stage Units (FSUs): Census villages (rural) / UFS blocks (urban) — exception: **rural Kerala uses Panchayat wards** as FSUs.
 - Ultimate Stage Units (USUs): Establishments.
- Data collection:** **CAPI** (Computer Assisted Personal Interviewing) via tablets; oral enquiry, monthly reference period.

Key Economic Findings

- Geographical Concentration:**
 - Top 10 Districts:** Account for ~10% of all establishments, workforce, and Gross Value Added (**GVA**). Located across 4 states: Gujarat, Telangana, Uttar Pradesh, and West Bengal.
 - Top 50 Districts:** Account for nearly **one-third (33%)** of the sector's total establishments, workforce, and GVA across 12 states.
 - Scale Distribution:** ~33% of districts have >1 lakh establishments; 16 districts have >5 lakh establishments (led by West Bengal with 8 districts).

- **Productivity Metrics:**
 - **National Benchmark:** All-India average GVA per worker is **₹1,56,539**.
 - **High-Productivity Districts:** 280 districts surpass the all-India average GVA per worker.
- **Women's Participation & Entrepreneurship:**
 - **Workforce Inclusion:** Women constitute **at least one-third (33%)** of the unincorporated workforce in **237 districts**, and **>50%** in 25 districts.
 - **Top Female-Led Districts:** Concentrated heavily in **Telangana, Manipur, Meghalaya, and Mizoram**. In Mizoram, female-owned proprietary units account for at least **50%** of establishments across *every* district.

Strategic State Leaders (Top Contributing District per State)

State/UT	Top District	% Contribution
Maharashtra	Pune	9.14%
Karnataka	Bengaluru (Urban)	12.83%
Tamil Nadu	Chennai	7.13%
Telangana	Rangareddy	23.53%
West Bengal	North 24 Parganas	15.99%
Gujarat	Surat	19.43%
Goa	North Goa	77.66%
Puducherry	Puducherry	76.64%
Ladakh	Leh	59.00%
Dadra & Nagar Haveli and Daman & Diu	Dadra & Nagar Haveli	65.48%

3.10. INDIA'S FIRST BLUE BOND

Context:

- SBI-backed Sagarmala Finance Corporation, India's first maritime lender, plans to launch India's first blue bond. The proposed bond aims to mobilise funds for projects related to the **sustainable use and conservation of ocean resources**.

What is a Blue Bond?

- A **blue bond** is a **debt instrument** that raises funds specifically for **marine and ocean-related sustainable activities**.
- Like a **green bond**, but focused on the **sustainable management of water and marine resources**.
- Funds may support **clean water, marine ecosystem protection, sustainable fisheries, ocean energy, and marine mapping**.

Significance of the Blue Bond

- **Mobilises Finance:** Raises long-term funds for **marine and ocean-related sustainable projects**.
- **Protects Oceans:** Supports **marine ecosystems, sustainable fisheries and ocean conservation**.



- **Improves Water Management:** Funds clean water, coastal resilience and related infrastructure.
- **Promotes Sustainable Development:** Supports ocean energy and sustainable use of marine resources.
- **Expands Sustainable Finance:** Diversifies the green finance market into water and marine sectors.

About Sagarmala Finance Corporation Limited

- **Established:** Formerly Sagarmala Development Company Limited; restructured as **Sagarmala Finance Corporation Limited (SMFCL)** in June 2025.
- **India's First Maritime NBFC:** Registered with the **Reserve Bank of India** as India's first maritime-focused Non-Banking Financial Company.
- **Purpose:** Bridges financing gaps in **ports, shipping infrastructure and related maritime industries.**
- **Financing:** Provides **short-, medium- and long-term finance** to ports, shipping companies, small businesses, startups and maritime institutions.
- **Strategic Sectors:** Also supports **shipbuilding, renewable energy, cruise tourism and maritime education**, aligned with India's maritime development goals.

3.11. 'DURGA' SCHEME

Context

- The Delhi Cabinet recently approved the **'DURGA'** scheme to allocate electric autos exclusively to women and transgender persons.

About the 'DURGA' scheme

- **DURGA** stands for **Driving Upliftment and Rozgar for Women/Transgender Green E-Auto** scheme.
- It aims to create **self-employment opportunities among woman and transgender person** and increase their participation in the transport sector and promote **clean urban mobility.**



How will the 'DURGA' scheme work?

- **Total:** 1,300 pink e-autos will be given in the first phase.
- **Women:** 1,170 e-autos will be allocated.
- **Transgender persons:** 130 e-autos will be allocated.
- **In each revenue district:** Up to **90 e-autos for women + 10 for transgender persons** can be allocated.

Who can apply for the 'DURGA' Scheme?

- Applicants must generally: Be a **Delhi resident** who is between **20–40 years old.**
- Have a valid Voter ID and have an LMW driving licence and PSV badge.
- Have family income of not more than **₹5 Lakh** along with having a family that does not already own a transport vehicle or three-wheeler.
- A woman with more than three children is not eligible.
- Transgender applicants need a certificate from the District Magistrate.

Significance of the DURGA Scheme

- **Women's Empowerment:** Provides self-employment and livelihood opportunities for women.

- **Transgender Inclusion:** Promotes participation of transgender persons in the transport sector.
- **Clean Mobility:** Encourages electric vehicles and cleaner urban transport.
- **Better Connectivity:** Improves last-mile connectivity in Delhi.
- **Social & Economic Inclusion:** Promotes livelihood, inclusion and sustainable mobility.

3.12. OLED IMPORT TARIFF DISPUTE

Context

- India is investigating **LG Electronics and Samsung** over allegations of paying a lower import duty on **OLED display components** used in high-end televisions.

What is the Dispute and Why the Tariff Dispute Matters?

- India's customs schedule offers a **concessional 5% duty on open cells for LCD/LED TVs** (to promote domestic TV assembly under "Make in India").
- **DRI's contention:** OLED is **technologically distinct** from LCD/LED (self-emissive vs backlit), so it doesn't qualify for the same concessional slab — hence the demand for **15% duty**.
- **Companies argue:** OLED is just an **evolved/advanced form of LED**, so the same concessional rate should extend to it.
- This is essentially a **product classification dispute** under the **Customs Tariff Act** — a recurring theme in India's trade-tax landscape (similar disputes have hit **Samsung** and **Volkswagen** previously).



Basic Concept: LED vs LCD vs OLED (Display Technologies)

Parameter	LCD (Liquid Crystal Display)	LED (Light Emitting Diode)	OLED (Organic Light Emitting Diode)
Light Source	External backlight using Cold Cathode Fluorescent Lamps (CCFL).	External backlight using inorganic LED diodes .	Self-emissive ; individual organic pixels generate their own light.
Technology Class	Transmissive (requires backlight behind liquid crystals).	Transmissive (a subtype of LCD display using LED backlighting).	Emissive (no backlight layer required).
Material Base	Inorganic liquid crystals and glass layers.	Inorganic semiconductors (Gallium Nitride, Silicon, etc.).	Organic (carbon-based) small molecules or polymers.
Black Levels & Contrast	Poor black levels due to constant light leakage from CCFL backlight.	Moderate black levels; dynamic dimming helps but backlight leakage persists.	True/Absolute Black ; individual pixels switch completely off (infinite contrast ratio).
Form Factor & Flexibility	Bulky, rigid, and energy-intensive.	Thinner than LCD, but limited flexibility due to backlight requirements.	Ultra-thin, flexible, rollable, and foldable display panels.

Viewing Angles	Narrow viewing angles; color shift at off-center positions.	Moderate to good viewing angles.	Exceptionally wide viewing angles without loss of contrast.
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3.13. VARIABLE RATE REVERSE REPO (VRRR) AUCTION

Context:

- Recently, the **Reserve Bank of India (RBI)** absorbed **₹71,971 crore** of surplus liquidity from banks through an **overnight Variable Rate Reverse Repo (VRRR) auction**.



About Variable Reverse Repo Rate (VRRR)

- Definition:** VRRR is a sub-tool under the Liquidity Adjustment Facility (LAF) where the central bank absorbs surplus liquidity from commercial banks at a market-determined, variable rate rather than a fixed rate.
- Mechanism:** Banks park their surplus funds with the RBI for a designated tenor (e.g., overnight/1-day, 7-day, 14-day) against government securities acting as collateral.
 - Unlike the fixed reverse repo rate**, the interest rate under VRRR is variable and is discovered through the auction process.
- Nature:** It is a **temporary liquidity management** operation rather than a change in the policy rate.
- Recent Auction Highlights:** Against a notified amount of ₹75,000 crore, banks placed bids absorbing ₹71,971 crore (approx. 96% subscription) at a cut-off rate of 5.24% for a 1-day tenor.

Why Does RBI Absorb Liquidity?

- Excess liquidity means banks have more funds available than they immediately need for lending and other purposes.
- If surplus liquidity remains high for a prolonged period, it can:
 - Increase the availability of money in the financial system.
 - Put downward pressure on short-term interest rates.
 - Potentially contribute to **inflationary pressures** if it leads to excessive demand.
 - Cause the overnight money-market rate to move away from the RBI's desired policy corridor.
- Therefore, RBI uses liquidity-management operations to maintain **appropriate liquidity conditions**.

3.14. ALTERNATIVES TO THE SWIFT PAYMENT SYSTEM

Context

- Driven by geopolitics, financial sanctions, and the weaponization of the U.S. dollar, nations across the Global South and BRICS are seeking alternatives to the Belgium-based SWIFT network.

Why Are Countries Moving Away from SWIFT?

- Multiple wars and repeated **U.S. weaponisation of dollar-based financial sanctions** are pushing Global South countries to seek alternatives.



- SWIFT (Society for Worldwide Interbank Financial Telecommunications) has long been the near-universal Belgium-based system for cross-border interbank messaging.
- Attempts to bypass it have been patchy so far, but interest in alternatives is growing amid geopolitical tension.

What is SWIFT?

- It is a **global messaging network** used by financial institutions to communicate information about international financial transactions.
- **SWIFT does not itself transfer money.**
- It provides a secure system through which banks exchange **standardised payment instructions**.
- It is headquartered in **Belgium**.
- It is a cooperative organisation owned by its member financial institutions.

Key Alternatives to SWIFT

1. Project mBridge

- A group comprising the central banks of **Thailand, UAE, China (Digital Currency Institute of the PBOC), Hong Kong Monetary Authority, and Saudi Arabia**.
- Enables cross-border transactions directly using central bank digital currencies (CBDCs), bypassing traditional correspondent banking chains.
- Built on a custom blockchain (**mBridge Ledger**) designed for multi-currency, cross-border payments in CBDCs.

2. SPFS (System for Transfer of Financial Messages)

- Developed by **Russia in 2014** specifically to bypass Western messaging systems.
- Usage increased sharply after **2022**, when Russian banks were cut off from SWIFT following sanctions over Ukraine.

3. CIPS (Cross-Border Interbank Payment System)

- Backed by the **People's Bank of China**; launched in **2015**.
- Allows global banks to clear cross-border yuan transactions directly, rather than routing through offshore clearing hubs.
- Includes participation from **SEPAMA** (Iran's local interbank telecom system with ~52 Iranian bank branches) and foreign banks connecting via **106 nodes**, including the Central Bank of Iran since 2023.

3.15. INDIA'S FIRST OVERSEAS LITHIUM ORE SHIPMENT

Context:

- Recently, Indian critical-minerals company **LOHUM** dispatched its first shipment of lithium ore from Zimbabwe, marking the start of its overseas lithium mining operations and, according to the company, making it the **first Indian company** to produce lithium from overseas mining assets.



Strategic & Policy Dimensions

- **Critical Mineral Security:** India has no commercial domestic lithium production and relies on **100% imports**. Securing overseas reserves builds supply chain resilience for Electric Vehicle (EV) batteries and grid storage tenders under national initiatives.
- **Institutional & Policy Support:**
 - **National Critical Mineral Mission (NCMM):** Administered by the Ministry of Mines, focusing on building self-reliance across 30 identified critical minerals (including Lithium, Cobalt, Nickel, and REEs).
 - **KABIL (Khanij Bidesh India Ltd.):** A Joint Venture of NALCO, HCL, and MECL focused on acquiring overseas strategic mineral assets (such as lithium blocks in Argentina's Lithium Triangle).

About Zimbabwe

- A landlocked sovereign republic situated in southern Africa, **between the Zambezi and Limpopo River**.
- **Capital:** Harare
- **Bordering Countries:** Bordered by South Africa, Botswana, Zambia, and Mozambique.
- **Victoria Falls:** It is one of the world's largest and most spectacular waterfalls, is located in the country's extreme northwest and is part of the Zambezi river.
- **Matabeleland South Province:** located in southwestern Zimbabwe, where the lithium blocks are situated



3.16. GDP ESTIMATION, BASE YEAR REVISION AND STATISTICAL INTEGRITY

Context:

- The government reported a strong 7.8% GDP growth for the first quarter. A controversy started when it was claimed this growth was artificially boosted by mixing data from the old base year (2011-12) with the new one (2022-23). However, this claim is mathematically incorrect.

Introduction

A transparent statistical system is the bedrock of effective policymaking. While updating the GDP base year is a routine and necessary step to capture true economic realities, such transitions must be methodologically clear. For India, ensuring the integrity of national data is crucial not just for good governance and maintaining global trust, but also for diagnosing and addressing core developmental challenges like jobless growth.

Why there is a Change in Base Year?

A base year sets a fixed price level to help measure *real* economic growth without the distraction of inflation. Globally, base years are updated every five years to include new businesses (like the digital economy) and changing consumer habits. Shifting to the 2022-23 base year was a much-needed step to keep India's GDP estimates accurate and relevant.



Why the Data Manipulation Claim is Wrong

The claim that actual growth was just 2.6% is mathematically flawed.

1. **Wrong Comparison:** It divides new data (2022-23 base) by old data (2011-12 base). Since the two series use completely different data sources, they cannot be compared.
2. **Timeline Proof:** The government lowered the baseline estimates months before the Q1 results were even calculated, proving the numbers were not reverse-engineered to look good.

The Core Issue: Lack of Clear Data Breakdown

While there was no data manipulation, the shift to the new base year created genuine confusion that needs to be addressed:

1. **Unexplained Drop in Value:** The shift to the 2022-23 base year suddenly wiped out roughly Rs 11 lakh crore from previous nominal GDP estimates.
2. **Missing 'Reconciliation Bridge':** The government has not provided a detailed, rupee-by-rupee breakdown explaining *why* this massive drop happened.
3. **Unclear Reasons:** It remains unknown if this reduction is due to newly added data sources, revised tax accounting, or completely new calculation methods.
4. **Broken Data Chain:** The old data series was stopped abruptly. Without a proper overlap, economists are struggling to compare current growth accurately with past years.

Why Accurate GDP Data Matters

1. **Better Policy Making:** Accurate data helps the RBI set the right interest rates and the government plan its budget effectively.
2. **Reflecting the Real Economy:** It brings the informal sector and new-age digital businesses into the official accounting system.
3. **Global Trust & Investment:** Transparent numbers build confidence among foreign investors and rating agencies, boosting Foreign Direct Investment (FDI).
4. **Fair Resource Sharing:** The Finance Commission relies on accurate national and state income data to distribute taxes fairly among states.
5. **Measuring True Health:** It separates true production growth from fake growth caused purely by rising prices (inflation).

Challenges in Measuring India's GDP

1. **Missing Informal Sector Data:** A massive part of India's economy is unorganized. Their output is often guessed using outdated proxies instead of actual, real-time tracking.
2. **Flawed Calculation Methods:** Older methods sometimes artificially boost manufacturing growth on paper when raw material prices fall, painting an inaccurate picture.
3. **No Historical Comparison:** The new base year was launched without a matched "back-series" (older data recalculated to the new base), making it impossible to compare current growth with past decades.
4. **Politicization of Data:** Economic statistics are often used for political point-scoring, which overshadows real technical and economic discussions.
5. **The Jobless Growth Reality:** High GDP numbers hide a harsh truth—the economy is growing, but it is not creating enough formal jobs for the youth.

Way Forward

1. **Provide Clear Explanations:** The government must release a detailed breakdown explaining the recent downward revisions to build trust among economists.
2. **Release Past Data (Back-Series):** A fully recalculated historical back-series must be published immediately so researchers can analyze long-term trends.
3. **Track the Informal Economy:** Link government surveys with live GST and MSME (Udyam) portals to accurately count the output of small businesses.
4. **Upgrade Calculation Methods:** Shift entirely to advanced methods (double deflation) to prevent the artificial inflation of manufacturing numbers.
5. **Ensure Institutional Freedom:** Give the National Statistical Commission (NSC) the freedom to work independently and stick to fixed, predictable data release dates.
6. **Focus on Jobs, Not Just Output:** Economic policies must shift focus from simply increasing GDP to promoting labor-intensive manufacturing and creating quality jobs.

Conclusion

A credible and independent statistical system is essential for India's developmental goals. While updating the GDP base year is a welcome reform, full transparency is required to resolve methodological doubts and prevent unnecessary controversies. Ultimately, true economic success is measured not merely by high GDP growth percentages, but by translating those numbers into quality jobs and inclusive development for citizens.

3.17. UPI MONETISATION & SUSTAINABILITY OF DIGITAL PUBLIC INFRASTRUCTURE

Context:

- The government and NPCI have mandated a **0.4% Merchant Discount Rate (MDR)** on **person-to-merchant (P2M) UPI transactions** exceeding **₹2,000**, shifting from a complete zero-charge regime to a self-sustaining payment architecture.



Introduction

The **Unified Payments Interface (UPI)** is India's foundational **Digital Public Infrastructure (DPI)** for instant payments. Transitioning from public subsidies to a commercial revenue model ensures the long-term operational health, capacity scaling, and security of payment operators.

NPCI and UPI Merchant Discount Rate (MDR)

1. NPCI: Institutional Framework

- Premier umbrella organisation for India's retail payment and settlement systems.
- Incorporated in **2008 as a Section 8 non-profit company** under the joint initiative of **RBI and IBA**.
- Promoted by a consortium of major commercial banks.

2. Key Digital Payment Infrastructure

- Operates major payment platforms such as **UPI, RuPay, IMPS, Bharat BillPay, FASTag (NETC) and AePS**.

- Supports the development of **accessible, interoperable and nationwide digital payment infrastructure**.

3. UPI MDR: Meaning & Applicability

- **Merchant Discount Rate (MDR)** is the transaction fee charged to merchants for processing digital payments.
- It is applicable to **merchant (P2M) transactions**, while **P2P UPI transactions generally do not attract MDR**.
- The rate and applicable limits depend on the **payment instrument and prevailing regulatory framework**.

4. Purpose & Revenue Distribution

- MDR compensates participants in the payment ecosystem, including **acquiring banks, payment intermediaries and network/payment infrastructure providers**.
- It is a **payment-processing/network fee, not a government tax**, intended to support the functioning of the digital payments ecosystem.

Why has NPCI Introduced MDR on UPI Transactions?

- **Escalating Operational Demands:** Processing billions of monthly transactions requires continuous heavy capital for **cloud storage**, server bandwidth, and low-latency networks.
- **Cybersecurity Mitigations:** Advanced threat landscapes and **AI-driven fraud vectors** consume over a fifth of annual budgets, requiring dedicated defense funding.
- **Subsidy Unsustainability:** Long-term reliance on **state budgetary incentives** is fiscally inadequate to finance future hardware and software capacity upgrades.
- **Market Incentivization:** A predictable commercial revenue model attracts **private sector innovation** and encourages healthy market competition.

Significance of MDR on UPI Transactions

- **Financial Viability:** Secures a dependable revenue stream to cover the structural **maintenance costs** of participating financial institutions.
- **Consumer Protection:** Safeguards everyday users and micro-vendors by keeping low-ticket retail purchases up to **₹2,000** completely charge-free.
- **Technological Resilience:** Injects vital capital to upgrade **real-time anti-fraud architectures** against automated cyber attacks.
- **Commercial Viability:** Replaces unviable zero-cost mandates with a **self-sustaining business framework** that spurs tech development.
- **DPI Strengthening:** Fortifies the structural resilience of India's **Digital Public Infrastructure** against outages during peak transaction volumes.

Challenges

- **Cost Pass-Through:** The persistent risk that merchants may unlawfully add **covert surcharges** onto retail buyers despite official advisories.
- **Behavioral Friction:** Potential consumer resistance causing a temporary contraction in **large digital payments** or a reversion to cash.
- **Regulatory Enforcement:** Administrative hurdles in auditing millions of **dispersed semi-urban merchants** against unauthorized fees.

- **Intermediary Margin Compression:** Heavy operational and compliance costs impacting the profitability of **mid-sized fintech aggregators**.
- **Inclusion Trade-Off:** Navigating the complex policy balance between **revenue generation** and sustaining universal digital adoption.

Way Forward

- **Strict Statutory Penalties:** Enforce strict punitive actions against merchants who **unlawfully transfer MDR costs** to retail consumers.
- **Turnover-Based Safeguards:** Retain explicit fee exemptions for **micro-enterprises** with annual turnovers below the ₹50 crore threshold.
- **Transparent Digital Receipts:** Mandate payment aggregators to display **itemized transaction invoices** to prevent hidden markups.
- **Dedicated Security Pooling:** Channel a fixed portion of collected MDR into a **national cybersecurity and anti-fraud fund**.
- **Hybrid Technical Support:** Provide targeted public grants to assist **regional and cooperative banks** with core processing upgrades.
- **Targeted Awareness Drives:** Conduct nationwide literacy campaigns clarifying that **P2P transfers and essential daily purchases remain charge-free**.

Conclusion

The calibrated implementation of the UPI MDR balances commercial sustainability with consumer affordability. By establishing a transparent, self-funded ecosystem, policymakers guarantee that India's digital public infrastructure remains resilient, secure, and financially inclusive.

3.18. INDIA-EU FTA: COPYRIGHT PROVISIONS & INDIA'S DIGITAL POLICY FLEXIBILITY

Context:

- The EU has moved towards formalising the India-EU FTA after negotiations concluded in January 2026. Its IP chapter has raised concerns that stronger copyright enforcement could narrow India's existing digital copyright exceptions.

Introduction

The India-EU FTA brings intellectual property to the centre of trade diplomacy. The challenge is to strengthen protection for creators and investors while preserving India's copyright flexibilities for education, research, digital innovation and public access to knowledge.

Significance of Intellectual Property Rights (IPR)

1. Promotes Innovation and Creativity

- **Incentivises innovation:** IPR grants creators and innovators legally enforceable rights, enabling them to derive economic returns from their inventions and creative works.
- **Encourages R&D:** Patents and other IPR mechanisms provide incentives for investment in **research and development**, particularly in technology-intensive sectors.

2. Supports Economic Growth

- **Creates economic value:** IPR enables the commercialisation of knowledge and converts innovation into **products, services, enterprises and employment opportunities**.



- **Strengthens knowledge economy:** Strong IPR frameworks support high-value sectors such as **IT, pharmaceuticals, biotechnology, electronics and creative industries.**

3. Facilitates Foreign Investment and Trade

- **Improves investor confidence:** Predictable IPR protection provides greater certainty to foreign investors regarding ownership and commercial exploitation of innovations.
- **Facilitates technology transfer:** Well-defined IPR regimes can encourage **licensing, joint ventures and technology partnerships** across countries.

4. Protects Consumers and Businesses

- **Prevents counterfeiting:** Trademarks and other IPR mechanisms help distinguish genuine products from counterfeit goods.
- **Protects brand identity:** Trademark protection enables businesses to establish and maintain consumer trust in their products and services.

5. Promotes Technological Development

- **Encourages technological advancement:** Patent protection enables innovators to invest in developing new technologies by providing temporary exclusive rights.
- **Supports software innovation:** Copyright protection provides legal protection to computer programmes and digital creations.

What is the Issue?

1. **Copyright provisions in the FTA:** The draft IP Chapter contains detailed obligations concerning copyright, enforcement, technological protection measures and rights-management information, thereby potentially affecting India's existing copyright framework.
2. **WCT and National Treatment:** The article highlights the concern that the WIPO Copyright Treaty (WCT) is omitted from the National Treatment clause even while certain WCT-related enforcement obligations remain relevant.
3. **Potential legislative implications:** According to the article's assessment, this asymmetry could require changes to the **Copyright Act, 1957**, particularly provisions protecting lawful digital uses.
4. **Current status:** The European Commission has published the negotiated FTA texts, but has explicitly stated that they may still undergo legal revision and become binding only after completion of the required internal procedures.

Why is the WIPO Copyright Treaty Important?

1. **Digital-era copyright:** The WCT was developed to address copyright protection in the digital environment, particularly for software, databases and digitally transmitted works.
2. **Balance between rights and exceptions:** The treaty framework recognises that copyright protection must coexist with limitations and exceptions serving legitimate public interests.
3. **Indian legal connection:** India amended its Copyright Act in 2012 partly to bring it into conformity with the WCT and WIPO Performances and Phonograms Treaty (WPPT).
4. **National Treatment principle:** National Treatment generally requires protected works from another contracting country to receive treatment comparable to that provided to domestic works.

Importance of India's Existing Copyright Flexibilities

1. Education and Research

- **Fair dealing:** Section 52 provides exceptions for specified legitimate uses, helping educational institutions and researchers use copyrighted material within statutory boundaries.

- **Software research:** Sections 52(1)(ab) and (ac), as highlighted in the article, provide space for lawful activities involving software interoperability and security-related research.

2. Technological Protection Measures

- **Section 65A:** India regulates circumvention of technological protection measures while recognising specified exceptions.
- **Policy significance:** The provision attempts to balance protection against digital piracy with legitimate activities such as research and other legally permitted uses.

3. Libraries and Archives

- Digital preservation increasingly requires libraries and archives to reproduce or format-shift material protected by **Digital Rights Management (DRM)**.
- Excessively restrictive anti-circumvention rules could therefore make legitimate preservation activities legally difficult.

4. Internet Service Providers

- The article highlights concerns regarding temporary copies created in **RAM, caches and routine electronic transmission**.
- If such transient technical copies receive broader copyright liability, intermediaries could face increased litigation and compliance costs.

Broader Significance for India

1. Digital Sovereignty

- Copyright rules increasingly determine who can access, reproduce, modify and transmit digital knowledge, making them an important component of **digital sovereignty**.

2. Innovation Ecosystem

- Start-ups, software developers, cybersecurity researchers and academic institutions depend upon reasonable exceptions for experimentation and interoperability.

3. Knowledge Economy

- Excessively restrictive copyright rules can increase the cost of accessing educational and research material, particularly for developing economies.

4. Trade and Investment

- Stronger IP protection can improve investor confidence and facilitate trade in innovative and creative goods and services; the EU itself identifies IP protection as a significant component of the FTA.

5. India–EU Strategic Partnership

- The issue illustrates the broader challenge of deepening economic integration with the EU while preserving India's regulatory autonomy in areas involving **education, technology and public interest**.

Key Challenges

1. Protection–Access Imbalance

- Excessive emphasis on enforcement may strengthen rightsholders while weakening legitimate exceptions required for education, research and preservation.

2. DRM versus Statutory Exceptions

- Digital locks can potentially prevent users from exercising rights that domestic copyright law otherwise permits, creating tension between **technological control and legal exceptions**.

3. Chilling Effect on Research

- Students and cybersecurity researchers may become more cautious about legitimate software testing if anti-circumvention rules are interpreted broadly.

4. Burden on Digital Intermediaries

- Expanded liability for temporary copies could increase compliance costs and litigation exposure for ISPs and other intermediaries.

5. Parliamentary Policy Space

- If international commitments require amendments to domestic copyright law, India must ensure that negotiated obligations do not unintentionally reduce the policy choices already enacted by Parliament.

Constitutional and Governance Dimensions

1. Right to Education and Knowledge

- Copyright policy intersects with broader public objectives of **access to education, research and knowledge**, requiring a balance between private intellectual property and societal interests.

2. Freedom of Expression

- Copyright exceptions can facilitate criticism, research, scholarship and transformative uses, thereby indirectly supporting a democratic knowledge ecosystem.

3. Legislative Sovereignty

- International trade commitments should remain consistent with Parliament's authority to determine the domestic balance between copyright protection and public-interest exceptions.

4. Good Governance

- Major trade commitments affecting domestic legislation require **transparency, stakeholder consultation and parliamentary scrutiny**.

Way Forward

1. Recalibrate the National Treatment Provision

- India should seek clarity and, where necessary, targeted revision so that the WCT's relevant limitations and exceptions are not unintentionally excluded.

2. Preserve Section 52 Flexibilities

- The FTA should explicitly protect legitimate exceptions relating to **education, research, libraries, archives, software interoperability and technological processes**.

3. Safeguard Section 65A

- Anti-circumvention obligations should contain adequate safeguards so that lawful research and other statutory exceptions remain meaningful.

4. Protect Transient Network Copies

- The treatment of temporary copies generated during routine digital transmission should be clearly defined to prevent disproportionate liability for ISPs.

5. Conduct Regulatory Impact Assessment

- Before final ratification, India should assess the consequences for **students, universities, libraries, start-ups, researchers, ISPs and digital platforms**.

Conclusion

India's objective should be neither unrestricted copyright enforcement nor weakened IPR protection. The India–EU FTA should establish a balanced framework that rewards creators, facilitates digital commerce and innovation, while preserving essential exceptions for education, research and public access.

3.19. INFLATION TARGETING AND INDIA'S MONETARY POLICY FRAMEWORK

Context:

- India recently completed a decade of Flexible Inflation Targeting (FIT) under the Reserve Bank of India (RBI). However, empirical data reveals a growing disconnect between this theoretical framework and India's macroeconomic realities, prompting the need for a critical statutory review.



Introduction

The RBI is legally mandated to maintain retail inflation at 4% ($\pm 2\%$). While FIT initially stabilized price volatility, recent analyses suggest its reliance on orthodox Western economic models risks compressing industrial output and employment without effectively resolving India's structural inflation.

What is Inflation Targeting?

Inflation Targeting is a monetary policy framework where a central bank explicitly sets a publicly announced target for the inflation rate. Acting as a "compass for price stability," it uses monetary tools—primarily the policy interest rate (repo rate)—to steer the economy, ensure predictable prices, and anchor public economic expectations. It is a globally recognized mechanism adopted by nations like the UK, Australia, and Canada.

History of Inflation Targeting in India

India's monetary policy has undergone significant structural evolution:

- 1960s to Mid-1980s:** Governed by "credit planning," where policy operated primarily through Statutory Liquidity Ratio (SLR) and Cash Reserve Ratio (CRR).
- Mid-1980s to Late 1990s:** Shifted to a "monetary targeting with feedback" model, aligning broad money supply with projected GDP growth (targeting 5-7% inflation).
- 2014:** The Urjit Patel Committee recommended transitioning to Flexible Inflation Targeting (FIT).
- 2015–2016:** Institutionalized via a Monetary Policy Framework Agreement and a formal amendment to the RBI Act, establishing the Monetary Policy Committee (MPC) and giving IT a statutory mandate.

Successes of Inflation Targeting in India

Before analysing its flaws, the framework's macroeconomic stabilization benefits must be acknowledged:

- Lowered Inflation Volatility:** It successfully reduced the historical inflation average (which stood around 7.5% since the 1980s) to a more manageable regime.
- Market Stability:** The framework reduced volatility in the exchange rate, stock market, and yields on government debt.
- Enhanced Credibility:** By establishing a predictable policy path, it improved central bank credibility, fostered a stable climate for long-term corporate investments, and shielded Indian markets from global financial spill-overs.

Pros and Cons of Inflation Targeting

Pros	Cons
Enhanced Credibility: Anchors public expectations and fosters investor confidence.	Transmission Lags: Delayed policy impact on ground-level retail inflation.
Policy Predictability: Ensures transparency for long-term corporate investment planning.	Supply-Side Inefficacy: Ineffective against structural shortages and supply-driven shocks.
Systemic Resilience: Shields the domestic economy from external financial shocks.	Growth Constraints: Rigid rate hikes risk stifling GDP growth and industrial employment.

Why the Current Model Fails in India?

- **The Flat Phillips Curve:** Data from the Index of Industrial Production (IIP) and CPI (2012–2026) reveals India's NKPC is flat. Output and inflation simply do not move together in the way the theory assumes.
- **The Missing Wage Spiral:** Unlike Western economies, 92% of India's workforce is informal. They are "price-takers" with zero bargaining power. Wages do not naturally rise with output, rendering the RBI's theoretical model completely void.
- **Expectation Disconnect:** RBI surveys show that household inflation expectations consistently run 4 percentage points above the RBI's projections. Consumers form expectations from their daily grocery bills, not RBI policy statements.

Significance of Inflation Targeting

1. **Exposes Imported Policy Flaws:** It highlights the systemic dangers of force-fitting Western macroeconomic models onto a developing economy dominated by informal labor.
2. **Growth Protection:** Mathematically proves that blind demand compression via repo rate hikes sacrifices industrial output and jobs without actually buying disinflation.
3. **Focus on Informality:** Brings the structural vulnerability of the 92% unorganized workforce to the forefront of national monetary policy debates.
4. **Data-Driven Realignment:** Emphasizes formulating monetary decisions based on actual IIP and survey data rather than theoretical macroeconomic assumptions.
5. **Stagflation Warning:** Warns policymakers that continuing this framework without reform pushes the economy toward stagflation—stagnant growth coupled with high prices.

Challenges in the Current Framework

1. **Supply-Side Dominance:** Headline CPI is heavily weighted toward volatile food and fuel. A repo rate hike cannot lower vegetable prices during a supply shock.
2. **Outdated Statistical Base:** The current CPI relies on a 2011-12 base year containing obsolete consumption items, failing to reflect modern household expenditure patterns.
3. **Weak Transmission Lags:** While rate changes quickly impact external-benchmark retail loans, transmission remains sluggish for older loan books and deposit rates.
4. **Unmeasured Employment Cost:** The statutory objective prioritizes price stability but provides no instrument to measure or mitigate the jobs foregone during a tightening cycle.
5. **Unanchored Sentiments:** Because everyday consumers are disconnected from central bank communications, the RBI lacks the practical tools to effectively anchor retail inflation expectations.

Way Forward

1. **Formulate Indigenous Macro-Models:** The RBI must develop localized economic models that explicitly factor in India's informal, price-taking labor market rather than relying on the imported Phillips Curve.
2. **Shift to Core Target:** Set the operational monetary stance against *core inflation* (excluding volatile food/fuel) while managing food spikes via buffer stock releases and import duties.
3. **Revise Statistical Metrics:** The government must urgently update the CPI base year to capture current consumption patterns accurately.
4. **Publish Employment Trade-offs:** Mandate the MPC to publish an official estimate of the output and employment costs alongside every repo rate decision to ensure democratic accountability.
5. **Deepen Policy Transmission:** Extend the mandatory linking of loans to external benchmarks across a broader spectrum of the credit market to ensure faster real-economy transmission.
6. **Broaden Expectation Surveys:** Redesign the Inflation Expectations Survey to report by income group and publish its methodology, making the RBI's communication strategies testable and localized.

Conclusion

A decade of data demonstrates that the theoretical mechanisms of Flexible Inflation Targeting are fundamentally misaligned with India's labour and structural realities. Force-fitting an orthodox model risks economic stagnation over price stability. The upcoming statutory review must shift towards a localized, supply-sensitive monetary strategy to successfully balance inflation control with essential employment and growth.

ENVIRONMENT AND GEOGRAPHY

4.1. SC DIRECTS TAMIL NADU TO FRAME PURSE SEINE TRANSIT RULES

Context:

- Recently, the **Supreme Court** has directed the **Tamil Nadu** government to formulate rules under the Marine Fishing Regulation Rules to create a “specified channel,” or official navigation corridor, for the transit of fishing vessels using purse seine nets from the State's territorial waters to the **Exclusive Economic Zone (EEZ)**.



Supreme Court Ruling & Directives

- Directive to Tamil Nadu:** The Supreme Court directed the Tamil Nadu government to frame rules establishing a “specified channel” (official navigation corridor) under the **Marine Fishing Regulation Rules, 2020**.
- Purpose:** To allow fishing vessels carrying purse-seine nets to transit safely from Tamil Nadu's territorial waters to the Exclusive Economic Zone (EEZ).
- Cooperative Federalism:** The Bench highlighted **cooperative federalism** between the Centre and the State to balance coastal regulation with the livelihood rights of fishermen.
- No Conflict Verdict:** The Court held that there is **no conflict** between the State's Marine Fishing Regulation Rules, 2020 and the Union's Sustainable Harnessing of Fisheries in the Exclusive Economic Zone Rules, 2025.

Maritime Zones & Regulatory Division

Zone / Parameter	Distance Limits	Regulating Authority	Relevant Rules / Scope
Territorial Waters	Up to 12 Nautical Miles	State Government	TN Marine Fishery Regulation Rules, 2020 (Regulates local gear and prevents purse-seine fishing close to shore).
Exclusive Economic Zone (EEZ)	Beyond 12 Nautical Miles (up to 200 NM)	Central / Union Government	Sustainable Harnessing of Fisheries in the EEZ Rules, 2025 (Permits regulated deep-sea fishing via access passes).

Sustainable Harnessing of Fisheries in EEZ Rules, 2025

- The Union Government notified the **Sustainable Harnessing of Fisheries in the Exclusive Economic Zone Rules, 2025** under the **Territorial Waters, Continental Shelf, Exclusive Economic Zone and Other Maritime Zones Act, 1976**.
- The Rules introduced an “**Access Pass**” mechanism for fishing vessels operating in India's EEZ.
- Key features include:**
 - Eligibility and registration of fishing vessels.
 - Verification by designated State authorities.

- Catch reporting requirements.
- Measures against **juvenile fishing**.
- Measures against **illegal, unreported and unregulated (IUU) fishing**.
- Preparation of an **eco-centric fisheries management plan**.

Some key Important facts

- **Entry 21, State List (List II):** Fisheries.
- **Entry 57, Union List (List I):** Powers relating to fisheries beyond territorial waters.
- **Purse seine fishing:** a fishing method using a large wall of netting to **encircle schools of fish**; often flagged for overfishing/juvenile fish capture concerns.

4.2. BIHAR & JHARKHAND SONE WATER AGREEMENT

Context:

- Bihar and Jharkhand have signed a landmark Memorandum of Understanding (MoU) to resolve a 25-year-old inter-state dispute over sharing the **Sone River waters**.
- The division of water allocated to undivided Bihar under the **1973 Bansagar Agreement**.



Strategic Significance

- **Storage & Hydropower:** The pact removes legal bottlenecks for constructing the long-pending **Indrapuri Reservoir** (between Garhwa, Jharkhand and Rohtas, Bihar) along with a proposed 300 MW hydroelectric project.
- **River Linking & Drought Relief:** Accelerates the proposed **Sone–Falgu river link**, boosting irrigation and drinking water security in drought-prone districts of South Bihar (Bhojpur, Rohtas, Gaya) and Jharkhand (Palamu, Garhwa).

About Sone River

- Originates near Amarkantak Hills (Maikal Range) in Chhattisgarh/MP border, just east of the Narmada River's source.
- It flows through Chhattisgarh, Madhya Pradesh, Uttar Pradesh, Jharkhand, and Bihar.
- Joins the Ganga River on its right bank near **Maner (Patna district, Bihar)**.
- It is the **second-largest southern (right-bank) tributary** of the Ganga, after the Yamuna.

Key Tributaries:

- **Right-bank:** Rihand, North Koel, Kanhar, Gopad.
- **Left-bank:** Johilla, Ghaghar, Chhoti Mahanadi.

Major Water Dam Infrastructure:

- **Bansagar Dam:** Located in Shahdol district, Madhya Pradesh.
- **Indrapuri Barrage:** Located at Dehri-on-Sone (Rohtas, Bihar), feeds the extensive Sone Canal System.
- **Rihand Dam (Govind Ballabh Pant Sagar):** Built on the Rihand River, a chief tributary of the Sone.

4.3. PARIVARTAN SCHEME: CLEANER COMMERCIAL TRANSPORT IN DELHI-NCR

Context:

- The Union Government has launched the **PARIVARTAN Scheme** to replace over **2 lakh old trucks and buses** registered in Delhi-NCR with **BS-VI/stricter emission-compliant or electric vehicles**, addressing vehicular air pollution from ageing commercial vehicles.



About PARIVARTAN Scheme

- Full Form:** Programme for Accelerated Renewal and Incentivization of Vehicle Assets for Reducing Transport Air Pollution and Network Emissions.
- Approved:** 3 June 2026 by the Union Cabinet.
- Duration:** Two-year enrolment/implementation framework.
- Target:** About **2.07 lakh vehicles** — 1.91 lakh trucks and 16,329 buses.
- Coverage:** Delhi and NCR districts of **Haryana, Rajasthan and Uttar Pradesh**.
- Outlay:** **₹9,585 crores**, including ₹5,041 crore Central Government support.
- Funding:** Through **National Capital Region Planning Board (NCRPB)** under MoHUA.
- Implementation:** Primarily by **Ministry of Road Transport & Highways (MoRTH)**, with participating governments and MoPNG.

Who is Eligible?

- Vehicles registered in Delhi-NCR conforming to **BS-IV or earlier emission norms**.
- They can be replaced with **BS-VI/stricter-compliant or electric vehicles**.
- BS-III and older vehicles:** Scrapping at authorised scrapping facilities is mandatory.
- BS-IV vehicles:** May be scrapped or sold outside NCR in eligible non-NCAP areas.
- Government vehicles are excluded.**

Special Provisions for Delhi

- Light Goods Vehicles:** New vehicles purchased under the scheme must be **electric**.
- Buses:** Must be **BS-VI CNG or electric**.

Major Incentives

- 5% interest subvention** on vehicle loans for 5 years.
- Up to ₹4,800/month fuel vouchers** for eligible BS-VI diesel/CNG vehicles.
- ₹64,000–₹2.56 lakh one-time incentive** for eligible EV purchases.
- At least 8% OEM discount** on ex-showroom price.
- Registration-fee waiver** and motor-vehicle tax concessions by participating States.
- Benefits are delivered through an **integrated digital platform** linked with systems such as VAHAN and vehicle-scrapping platforms.

Why to Focus on Trucks and Buses?

- Ageing commercial vehicles are significant sources of **particulate matter, NO_x and other air pollutants**. Replacing them can simultaneously address:
- Old high-emission fleet → Fleet modernisation → Lower vehicular emissions → Better NCR air quality

Bharat Stage (BS) Emission Norms

- **BS norms** regulate permissible emissions from motor vehicles in India.
- They prescribe limits for pollutants such as **particulate matter, NO_x, hydrocarbons and carbon monoxide**.
- **BS-VI** is India's current nationwide emission standard for new vehicles.
- India moved directly from **BS-IV to BS-VI in 2020**, skipping BS-V.

4.4. DECARBONISATION OF INDIA'S STEEL SECTOR & GREEN STEEL TRANSITION

Context:

- A recent analysis argues that India can substantially reduce future steel-sector emissions by redirecting investments from new or relined coal-based blast furnaces towards Direct Reduced Iron (DRI), Electric Arc Furnaces (EAFs) and eventually green hydrogen-based production.



India's Steel Production and Emissions Profile

- Steel is called a "**hard-to-abate**" sector — high heat and carbon (as reducing agent) are intrinsic to conventional production.
- India is the **second-largest** crude steel producer in the world, after China.
- India produced around 160 million tonnes of crude steel in FY 2025–26.
- Steelmaking accounts for nearly 12% of India's greenhouse-gas emissions.
- India's steelmaking emissions intensity is around 2.55–2.65 tCO₂e per tonne of crude steel, higher than the global average.
- India is targeting **net-zero emissions by 2070**; steel is one of the toughest sectors to align with this goal.

The Problem of "Carbon Lock-in"

- **Carbon lock-in** occurs when investment in long-lived fossil-fuel infrastructure makes continued emissions economically and institutionally difficult to avoid. This is particularly important for blast furnaces.
- **Blast furnaces (BF)** typically operate **20–25 years**; a mid-life "**relining**" (capital-intensive relining of the furnace lining) extends life by another **15–20 years**.

Key Steelmaking Production Routes in India

- **BF-BOF (Blast Furnace–Basic Oxygen Furnace)**: Uses coal/coke to melt iron ore; **highly carbon-intensive**. Accounts for ~43% of Indian steel production and 70.4% of global steelmaking still uses BF-BOF.

- **Electric Arc Furnace (EAF):** EAF uses electricity to melt steel scrap and DRI, and can have much lower emissions than the coal-based BF–BOF route when powered by clean electricity.
- **Direct Reduced Iron (DRI):** DRI removes oxygen from iron ore without melting it, using natural gas or hydrogen as the reducing agent.
 - Direct Reduced Iron – Electric Arc / Induction Furnace Accounts for ~57% of Indian production.
- **Hydrogen-based DRI-EAF ("Green Steel"):** Green hydrogen replaces natural gas/coal as the reducing agent; **near-zero emissions** if hydrogen is produced from renewables.

Major Initiatives & Policy Frameworks

- **National Mission on Green Steel / National Green Hydrogen Mission linkage:**
 - **Target:** lower steel sector emissions intensity from current ~2.55–2.65 tCO₂e/tonne to 2.2 tCO₂e/tonne of crude steel by 2029-30.
 - A **2024 Green Steel certification scheme** labels steel with emissions intensity below 2.2 tCO₂e as "green."
 - **Note:** Even India's "green" threshold (2.2 tCO₂e) remains well above the **global average of ~1.85 tCO₂e**.
- **Draft National Steel Policy 2025:**
 - Aims to cut emissions intensity to **2 tCO₂/tonne by 2035-36**.
 - Targets more than doubling crude steel capacity to **400 million tonnes/year by 2035-36**.
 - Reduce coking coal import dependence from roughly 90% down to 80%.
- **Ministry of New and Renewable Energy (MNRE)** funded pilot projects (~₹400+ crore) to validate 100% green hydrogen injection in DRI (Direct Reduced Iron) and blast furnaces.

4.5. FIVE YOUNG ORANGUTANS RESCUED IN ODISHA

Context:

- Recently, the **Odisha Forest Department** rescued **five young orangutans** from a **casuarina plantation in Balasore's Udayapur–Talsari area**. Found abandoned during patrolling, the animals were shifted to **Nandankanan Zoological Park** for medical examination.



About Orangutan

Feature	Key Information
Scientific genus	<i>Pongo</i>
Taxonomic group	Great ape; Family Hominidae
Native Habitat & Endemism	Orangutans are native exclusively to the tropical rainforests of Southeast Asia, specifically restricted to the islands of Borneo and Sumatra (shared across Indonesia, Malaysia, and Brunei). They are Asia's only living non-human great ape species.
Lifestyle	Predominantly arboreal
Diet	Primarily frugivorous, but broadly omnivorous

IUCN Status	Critically Endangered
CITES	Appendix I

Physical & Anatomical Adaptations

- **Arboreal Lifestyle:** Among the largest tree-dwelling mammals; spend most of their time in forest canopies.
- **Long Arms:** Arm span can reach ~2.2 m, much greater than body height.
- **Flexible Joints:** Highly mobile shoulders and hips, with **grasping hands and feet**, facilitate movement through trees.

Behaviour & Cognition

- **Tool Use:** Use sticks, leaves and other objects for **feeding, protection and communication**.
- **Mostly Solitary:** Adult orangutans are largely solitary; **females remain with offspring**, while males maintain large ranges.
- **Extended Maternal Care:** Young may remain with their mothers for **7–8 years**, learning feeding techniques, nest-building and movement through the forest.

Three Species of Orangutan

Same genus | Different traits | All Critically Endangered

Three species. One fight for survival.

Bornean Orangutan

(*Pongo pygmaeus*)



Key Characteristics

- Darker red/maroon coat.
- Males develop large, forward-facing cheek pads (flanges).

CR Status Critically Endangered

Sumatran Orangutan

(*Pongo abelii*)



Key Characteristics

- Lighter cinnamon fur.
- Longer face.
- Form closer social ties than Bornean species.

CR Status Critically Endangered

Tapanuli Orangutan

(*Pongo tapanuliensis*)



Key Characteristics

- Identified as a separate species in 2017.
- Rarest ape with fewer than 800 individuals.

CR Status Critically Endangered

Genus : Pongo
Family : Hominidae
Group : Great Apes

Natural Range
Borneo & Sumatra
Countries
Indonesia & Malaysia

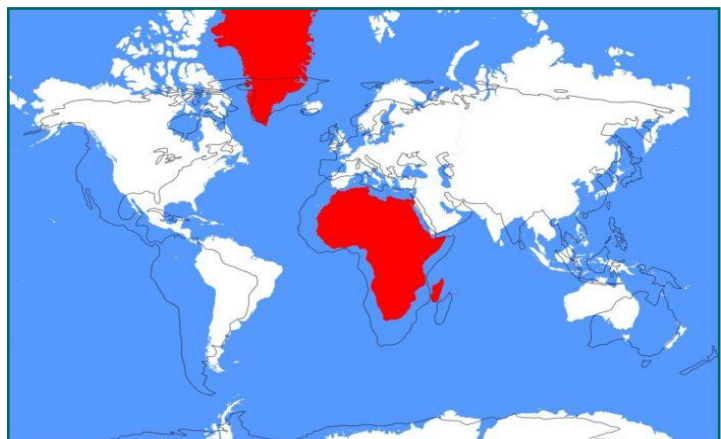
Habitat
Tropical rainforests
Diet
Mainly fruits (broadly omnivorous)

Quick Note
India has no naturally occurring wild population of orangutans.

4.6. CORRECT THE MAP RESOLUTION

Context:

- Recently, The UN General Assembly adopted the resolution “Correct the Map: Rebalancing Global Cartographic Representation and Promoting Equitable Representation of the World’s Regions, Particularly Africa” on 4 September 2026.
- The resolution, led by **Togo and the African Union**, was adopted with **164 votes in favour, 1 against and 6 abstentions**. India voted in favour.



What is the issue?

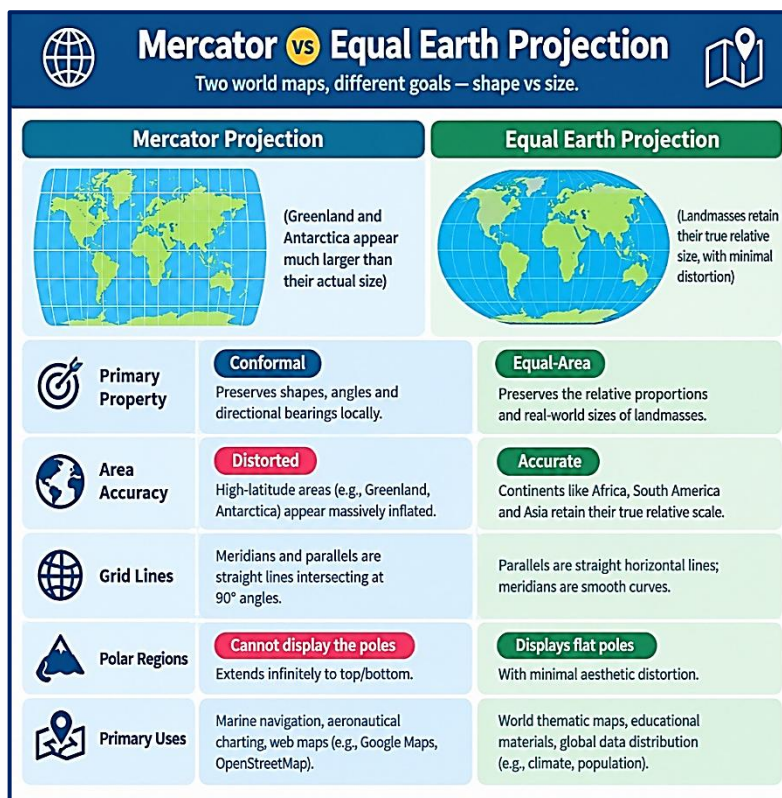
- The initiative seeks to promote world maps that **better represent the relative size of continents**, particularly correcting the disproportionate visual representation of Africa and other equatorial regions.

The Problem with the Mercator Projection

- The Mercator projection (1569) is a conformal projection designed primarily for navigation.
- It:
 - Preserves local angles and direction
 - Greatly distorts area, especially towards the poles
 - Makes Greenland and other high-latitude regions appear disproportionately large
 - Makes equatorial regions such as Africa appear relatively smaller

What Does “Correct the Map” Seek to Change?

- The resolution promotes the wider use of cartographic projections that represent the relative size of continents more accurately.
- It particularly highlights the **Equal Earth projection**, developed in 2018.



Equal Earth Projection

- Preserves the relative area of continents more accurately.
- Gives a more proportionate visual representation of Africa, South Asia and Latin America
- Parallels are straight horizontal lines, making it easy to compare latitude across different regions.

What Does It Mean for India?

- India **supported** the resolution.
- However, India also clarified that any cartographic representation must accurately reflect India's sovereign territory and official position on its boundaries, including Jammu & Kashmir and Ladakh.

Is the New Map Compulsory?

- The UN resolution is **not a legally binding** order requiring every country to replace the Mercator projection.
- It encourages governments, educational institutions and other stakeholders to promote more accurate representations of relative continental size.

4.7. KISHAU MULTIPURPOSE PROJECT

Context:

- **Recently**, six states - Himachal Pradesh, Haryana, Uttarakhand, Uttar Pradesh, Delhi, and Rajasthan—have signed a milestone agreement to implement the ₹15,624-crore Kishau Multipurpose Project, marking the resolution of a long-standing inter-state water sharing dispute.

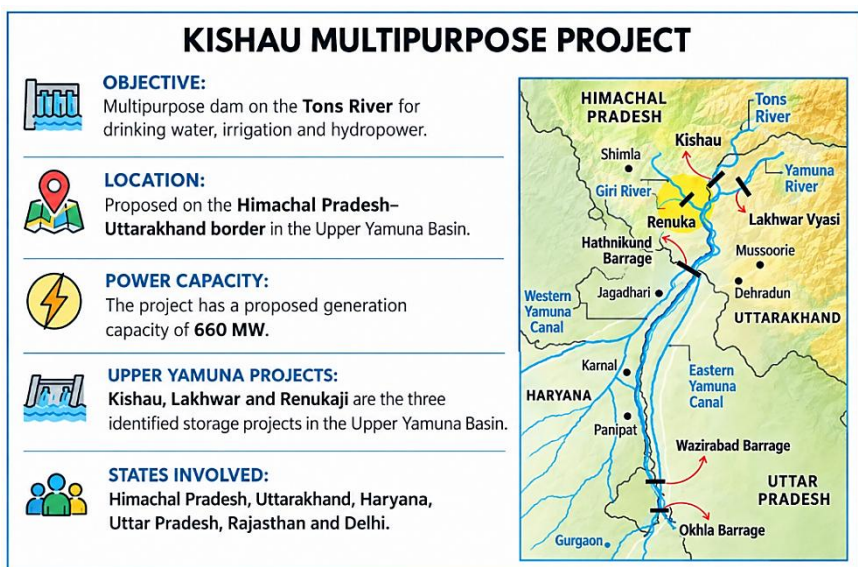


Key Points of the Agreement:

- **Participating States:** Himachal Pradesh, Uttarakhand, Haryana, Uttar Pradesh, Delhi, and Rajasthan.
- **Location:** A 232.6-metre-high dam built on the **Tons River** (a major tributary of the Yamuna) on the border between Himachal Pradesh and Uttarakhand.
- **Total Cost & Funding:** The Central Government will pay around **90%** of the cost, and the remaining **10%** will be shared among the six states.

Main Benefits of the Project:

- **Electricity:** Generates 422 MW of hydropower (approx. 1,476 million units of clean electricity per year).
- **Irrigation:** Provides water to irrigate roughly 97,000 hectares of farmland.
- **Drinking Water:** Delhi will be a major beneficiary, receiving around 110 million cubic metres of drinking water annually to address shortages.



4.8. NEW LEGLESS AMPHIBIAN DISCOVERED IN MAHARASHTRA

Context:

- Recently, Scientists have discovered a **new species of legless amphibian**, *Gegeneophis chandgadi*, from **Chandgad in Kolhapur district, Maharashtra**. The discovery takes the number of known *Gegeneophis* species in India to 12, of which **11 are endemic to the Western Ghats**.

About *Gegeneophis chandgadi*

- **New Species:** *Gegeneophis chandgadi* is a newly described **caecilian**, a limbless, burrowing amphibian belonging to the order Gymnophiona.



- **Location:** It was discovered near Buzawade village in Chandgad, Kolhapur district, Maharashtra, in the Northern Western Ghats.
- **Physical Features:** It has a slender, flesh-coloured, worm-like body with ring-like folds called annuli.
- **Habitat:** Like other caecilians, it is adapted to a subterranean lifestyle, spending most of its life in moist soil.
- **Naming Classification:** The species name chandgadi pays tribute to the local culture, being named after the **Chandgadi language**, a distinct dialect of Marathi spoken by the people of the region where the species was discovered.

What are Caecilians?

- Caecilians are **legless, elongated amphibians** adapted mainly to a **burrowing lifestyle**.
- Their worm-like appearance can lead to confusion with **earthworms or snakes**, but they are **amphibians**.
- They generally live **underground or in moist soil**, making them difficult to detect.
- Their reduced eyes and specialised sensory structures reflect their **subterranean adaptation**.
- Caecilians constitute one of the **three living orders of amphibians**.

Ecological Importance of Caecilians

- **Soil Health:** Burrowing helps maintain **soil aeration and nutrient cycling**.
- **Food Web:** Act as both **predators and prey** in soil ecosystems.
- **Bioindicators:** Their dependence on moist habitats can indicate **ecosystem health**.
- **Biodiversity:** Their high endemism reflects the **unique biodiversity of the Western Ghats**.

Gegeneophis chandgadi

- **Group:** Caecilian
- **Order:** Gymnophiona
- **Genus:** *Gegeneophis*
- **Distribution:** Northern Western Ghats, Maharashtra
- **Habitat:** Moist soil and subterranean environments
- **Endemism:** Part of the highly endemic caecilian diversity of the Western Ghats.

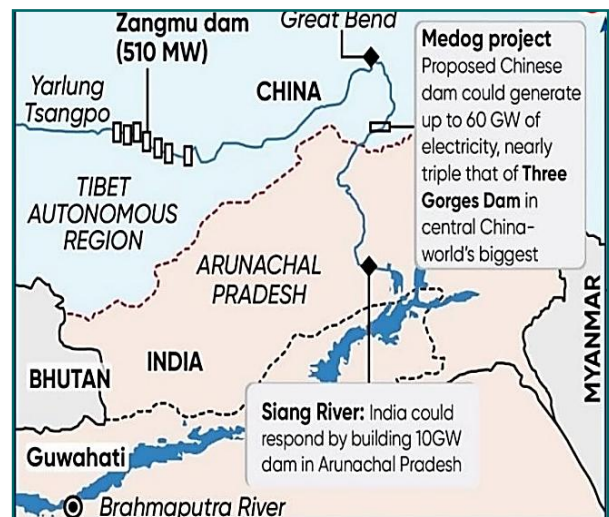
4.9. SIANG UPPER MULTIPURPOSE PROJECT

Context:

- The **Arunachal Pradesh Cabinet** approved an **Empowered High-Level Committee** to coordinate the **PFR survey and related activities** for the proposed **Siang Upper Multipurpose Project (SUMP)** in Siang and Upper Siang districts, amid local opposition and environmental concerns.

About Siang Upper Multipurpose Project

- **Location:** Siang River basin, the area is primarily inhabited by the **Adi Tribe**, an indigenous community with a strong connection to the Siang River.



- **Districts involved:** Siang and Upper Siang.
- **Proposed capacity:** Around **11,000 MW** of hydropower.
- **Nature:** A proposed **multipurpose hydropower and storage project**.
- **National Project:** The project was declared a **National Project by the Centre in 2008**.
- **Current stage:** **Pre-Feasibility Report (PFR) survey**, not construction.
- **Purpose:** Besides power generation, the project is associated with **water security, flood moderation in the Siang–Brahmaputra basin, employment and regional development**.

Strategic Significance

- **Hydropower generation** in Arunachal Pradesh.
- **Water security** in the Siang–Brahmaputra basin.
- **Flood moderation** downstream.
- **Employment and socio-economic development** in the region.
- The broader strategic importance of Arunachal Pradesh as a **border State**.

4.10. MONTREAL PROTOCOL & THE ROAD TO OZONE RECOVERY

Context:

- 16 September is observed as World Ozone Day, marking the adoption of the Montreal Protocol on Substances that Deplete the Ozone Layer in 1987.



Why Was the Montreal Protocol Needed?

The stratospheric ozone layer absorbs harmful **Ultraviolet-B (UV-B)** radiation. Certain man-made chemicals release chlorine and bromine in the stratosphere, which catalytically destroy ozone.

- **Ozone depletion:** Reduction in stratospheric ozone concentration.
- **Ozone hole:** A region of severe seasonal ozone depletion, most prominently over Antarctica.
- **Major ozone-depleting substances (ODS):** CFCs, halons, carbon tetrachloride, methyl chloroform, HCFCs and methyl bromide.
- **Major impacts:** Increased risk of skin cancer, cataracts and damage to ecosystems.

Montreal Protocol at a Glance

- **Adopted:** 1987; **Entered into force:** 1989.
- **Objective:** Protection of the **stratospheric ozone layer**.
- **Focus:** Phasing out **Ozone-Depleting Substances (ODS)**.
- **Nature:** Legally binding international environmental treaty under the **Vienna Convention framework**.

INDIA AND THE MONTREAL PROTOCOL

- **Kigali Amendment:** India ratified it in 2021.
- **Category:** India is an Article 5, Group 2 country.
- **Baseline:** HFC baseline is based on the 2024–2026 average.
- **Freeze Year:** India will freeze HFC consumption in 2028.
- **Target:** India aims to reduce HFC consumption by 85% by 2047.

Domestic Action

- **HPMPs:** India is implementing HCFC Phase-out Management Plans.
 - Phased reduction of HCFCs used in refrigeration, air-conditioning and foam sectors.
- **Regulation:** ODS are regulated through the ODS (Regulation and Control) Rules.

- **Implementation:** Different phase-out schedules for **developed and developing countries**.
- **Multilateral Fund:** Provides **financial and technical assistance** to developing countries.
- **Kigali Amendment (2016):** Entered into force: 1 January 2019, mandates the **phase-down of HFCs**, which are **not ODS but are potent greenhouse gases**.

What Does the Protocol Control?

The Protocol does not merely regulate emissions after production. It controls the production, consumption, trade and use of ODS.

Important substance groups

Substance	Major historical use	Ozone significance
CFCs	Refrigeration, aerosols	Major ozone-depleting chemicals
Halons	Fire extinguishers	High ozone-depleting potential
HCFCs	Transitional refrigerants	ODS, though generally less damaging than CFCs
Methyl bromide	Fumigation	Ozone-depleting substance
HFCs	Refrigeration and air-conditioning	Do not deplete ozone, but are powerful greenhouse gases

4.11. PICHAVARAM MANGROVES THE BLUE CARBON POWERHOUSE

Context:

- A recent study has estimated the **Total Economic Value (TEV) of the Pichavaram Mangrove Ecosystem at ₹2,485.38 crores**, highlighting the economic importance of mangroves through **ecosystem services and blue-carbon storage**.



Pichavaram Mangroves Ecosystem

- **Location:** Cuddalore district, Tamil Nadu, near Chidambaram.
- **Ecosystem:** Mangrove and coastal wetland with **interconnected backwaters and channels**.
- **Importance:** Supports **biodiversity, fisheries, coastal protection and climate regulation**. It is a designated as a **Ramsar Site**

Mangrove: The Coastal Ecosystem

- Mangroves are **salt-tolerant woody plants** found mainly in tropical and subtropical **intertidal zones**.
- These ecosystems thrive in high-rainfall areas (1,000–3,000 mm) with temperatures ranging from **26°C to 35°C**.
- They occur along **estuaries, deltas, tidal creeks, lagoons and sheltered coastlines**.
- They are adapted to **salinity, waterlogging and low-oxygen soils**.
- Special adaptations include **pneumatophores, prop roots and salt-excretion mechanisms** in different species.

• Ecological Importance

- As per **World Wildlife Fund** mangroves store 7.5–10 times **more carbon** per acre than tropical forests.
- Provide **breeding and nursery grounds** for fish, crustaceans and other organisms.
- Protect coastlines from **erosion, storm surges and cyclones**.
- Support **fisheries and coastal livelihoods**.
- Store significant amounts of **carbon in biomass and sediments**.
- Contribute to **biodiversity conservation and climate adaptation**.



About Carbon Sequestration, Carbon Storage & Carbon Sink

Concept	Meaning
Carbon Sequestration	Process of capturing CO ₂ from the atmosphere and storing it in biomass, soil, oceans or geological formations.
Carbon Storage	Carbon already held in biomass, soil, sediments, oceans or geological formations.
Carbon Sink	A natural or artificial system that absorbs more carbon than it releases.

Green Carbon vs Blue Carbon

Green Carbon	Blue Carbon
Mainly associated with terrestrial ecosystems	Associated with coastal and marine ecosystems
Forests, grasslands, agricultural ecosystems	Mangroves, seagrass, salt marshes
Stored in vegetation and soils	Stored significantly in biomass and coastal sediments

Key Important Terms

- **Total Economic Value (TEV):** A framework used in environmental economics to value both market (use) and non-market (non-use) benefits of an ecosystem, including provisioning, regulating, supporting, and cultural services.
- **Payment for Ecosystem Services (PES):** A market-based mechanism where beneficiaries of ecosystem services pay providers (often local communities) to maintain or restore the ecosystem.

India's Progress in Mangrove Conservation: As per the India State of Forest Report 2023 (ISFR-2023)

- **Total Mangrove Cover (2023):** 4,991.68 sq. km, covering **0.15%** of India's geographical area.
- **Long-term growth:** Increased by 363.68 sq. km (7.86%) between 2013–2023.
- **Overall growth:** Increased by 509.68 sq. km (11.4%) between 2001–2023.
- **Largest share:** West Bengal – 42.45%, followed by Gujarat – 23.32% and Andaman & Nicobar Islands – 12.19%.
- **Gujarat's progress:** Mangrove cover increased by 253.06 sq. km (2001–2023), supported by plantations, community participation and public-private partnerships.

4.12. PYGMY HOG CONSERVATION

Context:

- The pygmy hog's recovery in Assam demonstrates that species conservation cannot succeed through captive breeding alone; its long-term survival depends upon restoring dynamic alluvial grassland ecosystems.

Introduction

The pygmy hog (*Porcula salvinia*), the world's smallest wild suid, is **Critically Endangered** and confined to Assam, making its conservation an important test of ecosystem-based wildlife management.



Present Situation

- Extremely restricted distribution:** The species historically occupied tall, wet grasslands along the Himalayan foothills, but its wild distribution has contracted drastically, with **Manas National Park remaining its principal stronghold**.
- Small and difficult-to-monitor population:** Estimates have generally placed the wild population in the **150–250 range**, although precise enumeration remains difficult because the animal is secretive and inhabits dense grasslands.
- Captive breeding has created an insurance population:** The Pygmy Hog Conservation Programme (PHCP), launched in **1995**, developed captive-breeding facilities in Assam and subsequently reintroduced captive-bred individuals into protected grasslands.
- Significant recovery through reintroduction:** Between **2008 and 2023, around 170 captive-bred pygmy hogs were released** at different sites in Assam, demonstrating the feasibility of conservation breeding combined with habitat restoration.
- Recent rewilding continues:** In 2026, **15 captive-bred pygmy hogs were released into Kuribeeel grasslands of Manas**, returning the species to an area associated with its original conservation efforts.

Factors Responsible for the Threat

- Conversion of grasslands:** Alluvial floodplains have been converted for **agriculture, settlements, tea plantations and infrastructure**, reducing the continuous grassland habitat required by pygmy hogs.
- Flood-control interventions:** Embankments and other flood-control measures can modify the **natural flooding, sediment deposition and vegetation dynamics** of floodplains, thereby altering suitable grassland habitats.
- Invasive vegetation:** Invasive plants can replace native tall grasses, reducing food availability and the dense vegetation required for **foraging, nesting and concealment**.
- Unsustainable fire regimes:** Dry-season burning, when poorly timed or excessively extensive, can destroy the dense grass cover required by pygmy hogs; conversely, complete fire suppression can allow woody vegetation to invade grasslands.
- Habitat fragmentation:** Fragmentation isolates small populations, restricts dispersal and increases vulnerability to **local extinction and genetic erosion**.

Challenges Faced by the Ecosystem

- Grassland–forest succession:** Alluvial grasslands are naturally dynamic; excessive suppression of ecological processes can allow shrubs and trees to encroach, converting grassland into woodland.

2. **Balancing fire ecology:** Fire is an ecological process in many grasslands, but inappropriate timing, frequency or intensity can eliminate the vegetation structure needed by pygmy hogs and other grassland specialists.
3. **Multiple-species conservation dilemma:** Grassland management must simultaneously accommodate species such as the **Bengal florican, hispid hare, hog deer and greater one-horned rhinoceros**, rather than focusing exclusively on one flagship species.
4. **Small isolated populations:** Concentration of the remaining population in limited habitats increases vulnerability to **disease outbreaks, extreme floods, fires, demographic fluctuations and stochastic events**.
5. **Monitoring difficulty:** The animal's small size, secretive behaviour and dense habitat make conventional population estimation difficult, necessitating **camera traps, field signs, telemetry and genetic monitoring**.

Ecological Significance of the Pygmy Hog

1. **Indicator species:** The pygmy hog is closely associated with healthy **tall, wet alluvial grasslands**; therefore, its population trends can signal broader degradation of floodplain ecosystems.
2. **Umbrella-species potential:** Conserving its grassland habitat can simultaneously protect several threatened species, including the **Bengal florican, hispid hare and hog deer**, generating wider biodiversity benefits.
3. **Soil ecosystem functions:** Its rooting and foraging behaviour disturbs and aerates soil while searching for **roots, tubers, invertebrates and other food**, contributing to nutrient cycling.
4. **Seed dispersal:** Its feeding and movement behaviour can contribute to **seed dispersal**, thereby supporting vegetation dynamics within grassland ecosystems.
5. **Grassland conservation indicator:** Recovery of the pygmy hog therefore represents more than saving a rare mammal; it indicates progress towards restoring the ecological integrity of the **Brahmaputra–Terai alluvial grassland landscape**.

Government and Conservation Initiatives

1. **Pygmy Hog Conservation Programme (1995):** Established through collaboration involving conservation organisations and government agencies, the PHCP combines **research, captive breeding, habitat management, reintroduction and community participation**.
2. **Captive breeding:** Six wild pygmy hogs were brought into the breeding programme in the 1990s, establishing a founder population from which subsequent captive-bred animals were produced.
3. **Habitat restoration:** Conservation programmes have worked to create and restore open grasslands, including through **invasive-species removal and planting of native grasses**.
4. **Reintroduction programme:** Earlier releases included **116 captive-bred hogs across Sonai Rupai, Orang and Barnadi between 2008 and 2018**, demonstrating the use of multiple protected landscapes rather than relying exclusively on one site.
5. **Legal protection:** The pygmy hog receives **Schedule I protection under India's Wildlife (Protection) Act, 1972**, providing the highest level of statutory protection under the Act.

Way Forward

1. **Adopt ecosystem-first conservation:** Shift from merely increasing captive numbers towards restoring the **entire alluvial grassland–floodplain ecological process** on which wild populations depend.
2. **Restore habitat connectivity:** Reconnect fragmented grasslands and strengthen buffer zones around **Manas, Orang and Sonai Rupai**, enabling dispersal and reducing isolation.

3. **Restore native vegetation:** Establish nurseries for indigenous grass species and systematically remove invasive plants, as demonstrated by recent habitat-restoration work at Manas.
4. **Improve scientific monitoring:** Combine **camera trapping, radio/GPS telemetry, environmental DNA and genetic sampling** to obtain more reliable population estimates and understand dispersal.
5. **Landscape-level planning:** Integrate pygmy-hog conservation with management of **Bengal florican, rhino, hog deer and hispid hare**, converting species-specific programmes into grassland ecosystem restoration.

Conclusion

The pygmy hog symbolises the health of India's threatened floodplain grasslands; securing its future therefore requires moving beyond captive breeding towards landscape restoration, ecological connectivity and adaptive management.

4.13. FROM HAZARDOUS SCRAP TO STRATEGIC ASSET

Context:

- **Rapid Digital Transformation:** Frequent IT hardware upgrades have severely accelerated the generation of **electronic waste (e-waste)**.
- **The Dual Challenge:** Discarded electronics pose severe **hazardous risks** if mismanaged, while simultaneously offering a massive, untapped domestic reserve of **strategic critical minerals**.



Introduction

- **Concept of Urban Mining:** It involves recovering valuable secondary raw materials from end-of-life electronics, serving as a sustainable alternative to extracting virgin ores from the earth.
- **Required Paradigm Shift:** Realising this potential requires moving public and private decision-making away from the short-term **lowest-price principle** toward comprehensive **life-cycle costing**.

Significance of Urban Mining and E-Waste Recycling

1. **Secures Strategic Raw Materials**
 - Recovers high-value elements including **copper, gold, silver, palladium**, and rare **critical minerals**.
 - Transforms mountains of discarded electronics into a dependable domestic raw material reserve for the digital economy.
2. **Reduces Virgin Mining and Import Dependence**
 - Minimises ecological degradation and carbon emissions caused by traditional, resource-intensive **virgin mining**.
 - Strengthens domestic supply chains, directly insulating the nation from volatile global markets and **import dependence**.
3. **Mitigates Environmental and Public Health Hazards**
 - Ensures certified and environmentally sound containment of toxic, heavy metal **hazardous components**.
 - Prevents environmental contamination that eventually re-emerges as expensive public **health-care expenditures**.

4. Prevents Cybersecurity and Data Breaches

- Integrates certified and verifiable **secure data destruction** into the core recycling protocol.
- Eliminates vulnerabilities where discarded storage devices cause severe **cybersecurity risks** and reputational harm.

5. Fosters Long-Term Industrial Competitiveness

- Builds early domestic capabilities in high-tech recycling and **advanced manufacturing ecosystems**.
- Yields long-term economic advantages and scale efficiency, mirroring early strategic investments in **solar power**.

Challenges in Implementing Advanced Urban Mining

1. Lowest Visible Cost Bias in Procurement

- Public and corporate procurement overwhelmingly favours the **lowest visible cost**, prioritising quick resale margins and minimal disposal fees.
- Strategic imperatives such as **critical mineral recovery** and ecological safety are omitted because they do not appear on immediate invoices.

2. High Upfront Infrastructure and Technology Costs

- Establishing compliant processing facilities, advanced material recovery plants, and **traceable supply chains** requires high capital outlay.
- Entities often mistake lower upfront disposal bids for actual savings, overlooking the superior durability of advanced recycling.

3. Superficial Extended Producer Responsibility (EPR) Markets

- Compliance markets frequently incentivise producers to buy the cheapest available paper certificates rather than funding physical recycling.
- This framework rewards low-cost informal aggregators instead of incentivising recyclers with high **recovery efficiency**.

4. Cybersecurity Vulnerabilities from Substandard Disposal

- Selecting recyclers solely based on maximum salvage value compromises **data sanitisation** protocols.
- Improperly handled data storage units cause permanent leakage of sensitive organisational assets and national security data.

5. Externalised and Delayed Economic Costs

- Pollution, resource depletion, and lost domestic capability do not hit immediate corporate balance sheets.
- These deferred liabilities ultimately shift heavy fiscal burdens onto citizens via remedial taxes and lower economic productivity.

Way Forward

1. Adopt Life-Cycle Costing Frameworks

- Replace the rigid lowest-acquisition-cost model with **life-cycle costing** across all public procurement policies.
- Evaluate bids by factoring in avoided import costs, secondary material yields, and long-term public value.

2. Implement Value-Based Public Procurement

- Utilise state purchasing power as an explicit tool of **industrial policy** to scale domestic advanced recycling industries.
- Prioritise technology vendors that guarantee certified circular take-back loops and **traceable supply pipelines**.

3. Overhaul Extended Producer Responsibility (EPR) Standards

- Restructure EPR guidelines to penalise paper trading and actively reward **traceability** and material recovery rates.
- Provide tax incentives and preferential market access to recyclers investing in deep **critical mineral extraction**.

4. Institutionalise Dual Balance Sheet Accounting

- Mandate organisations to evaluate major asset retirements on both an immediate **financial balance sheet** and an open-ended **strategic balance sheet**.
- Track organisational contributions to resource resilience, carbon mitigation, and **domestic mineral security**.

5. Enforce Mandatory Secure Data Sanitisation Standards

- Institute strict statutory mandates that require certified, irreversible **data destruction** prior to physical dismantling.
- Treat end-of-life IT disposal as a matter of national **cybersecurity governance** rather than simple scrap liquidation.

6. Build Domestic Scale through Targeted Industrial Support

- Replicate the scale-driven policy interventions deployed successfully in the **renewable energy sector**.
- Provide capital subsidies and viability gap funding for high-tech **urban mining hubs** to lower unit processing costs.

Conclusion

- Transitioning to **urban mining** through **life-cycle costing** ensures discarded electronics become resilient **strategic assets** rather than hazardous liabilities.
- This approach secures India's technological autonomy with the smallest unpaid economic and environmental bill.

4.14. HIMALAYAN MONAL: CLIMATE CHANGE, NOISE POLLUTION & HABITAT CONNECTIVITY

Context:

- The **Himalayan Monal** (*Lophophorus impejanus*), a high-altitude pheasant and the **state bird of Uttarakhand**, inhabits temperate, sub-alpine and alpine ecosystems of the Himalayas. Although globally classified as **Least Concern**, emerging research highlights how **climate change, anthropogenic noise and habitat fragmentation** can undermine its ecological security.



Ecological Significance of the Himalayan Monal

- **Indicator species:** Its dependence on high-altitude habitats makes it an indicator of the health of fragile montane ecosystems.
- **Ecosystem functions:** Ground-foraging and digging help in **soil aeration, nutrient cycling and seed-bank regeneration**.
- **Biodiversity value:** It represents the rich galliform diversity of the Himalayan ecosystem.
- **Cultural significance:** It is the **state bird of Uttarakhand** and is known as *Danphe* in Nepal.

Emerging Threats

A. Anthropogenic Noise & Behavioural Change

- **Noise exposure:** Roads, vehicles, tourism and pilgrimage increase acoustic disturbance.
- **Behavioural shift:** Monals in noisier areas show **higher-frequency and greater-amplitude calls**.
- **Acoustic masking:** Human noise can interfere with natural communication.
- **Reproductive concern:** Masked mating calls may affect **male–female communication**.
- **Social behaviour:** Altered vocalisation may also influence territorial and social interactions.
- **Research limitation:** Impact on actual **breeding success remains unestablished**.
- **New conservation dimension:** Habitat degradation includes **acoustic disturbance**, not just physical habitat loss.

B. Climate Change & Shifting Habitat

- **Seasonal migration:** Monals move **upward in summer** and descend during heavy winter snowfall.
- **Climate impact:** Warming can alter temperature, snowfall, vegetation and habitat suitability.
- **Habitat redistribution:** Existing suitable areas may decline while **new suitable habitats emerge elsewhere**.
- **Connectivity challenge:** New habitats are useful only if monals can **reach them**.
- **Fragmentation risk:** Roads and infrastructure can block **altitudinal movement**.
- **Adaptation barrier:** Fragmentation can prevent species from **tracking shifting climatic niches**.
- **Conservation principle:** Protect **habitat connectivity**, not merely individual habitat patches.

C. Infrastructure & Tourism Pressure

- **Road expansion:** Improves regional connectivity but fragments sensitive habitats.
- **Pilgrimage pressure:** Seasonal footfall increases disturbance in fragile ecosystems.
- **Vehicular traffic:** Adds **noise pollution and behavioural disturbance**.
- **Habitat fragmentation:** Roads can isolate previously connected populations.
- **Ecological trade-off:** Developmental connectivity can undermine **ecological connectivity**.
- **Governance need:** Infrastructure planning must incorporate **wildlife corridors and noise-sensitive zones**.

D. Other Landscape-Level Pressures

- **Alpine overgrazing:** Degrades meadows and potential nesting habitats.
- **Habitat fragmentation:** Isolates populations and restricts movement.
- **Historical poaching:** Male monals were targeted for their ornamental crest feathers.
- **Tourism infrastructure:** Increases human presence and habitat disturbance.

- **Cumulative pressure:** Multiple stressors can interact, increasing ecological vulnerability.
- **Conservation implication:** Requires **landscape-level management**, rather than species protection alone.

Existing Framework / Protection Measures

- **Wildlife (Protection) Act, 1972:** Himalayan Monal is listed under **Schedule I**, providing the highest level of statutory protection against hunting and trade.
- **CITES Protection:** Listed under **Appendix I**, restricting international commercial trade in wild-caught specimens and derivatives.
- **Protected-Area Framework:** Its habitat includes protected landscapes such as **Kedarnath Musk Deer Sanctuary**, providing in-situ conservation and habitat protection.
- **Eco-Sensitive Zone (ESZ) Regulation:** Activities around protected areas are regulated through the **ESZ framework**, providing scope to manage infrastructure, tourism and vehicular pressures.

Why Existing Protection Alone Is Insufficient

1. **Legal Protection is Not Sufficient:** Statutory protection regulates hunting and trade but does not necessarily address **habitat degradation, ecological disturbance and loss of breeding grounds**.
2. **Need for Landscape-Level Conservation:** Effective conservation requires protection of the **species along with its habitat, movement corridors, food resources and ecological processes**.
3. **Global Status May Mask Local Decline:** A **Least Concern** global classification may overlook **local population declines and habitat stress** in specific regions.
4. **From Species Protection to Ecosystem Security:** Conservation efforts must assess not only the **status of the species** but also the security of its **local populations, habitats and ecological processes**.

Governance Challenges

1. **Physical-Habitat Bias in EIAs:** Conventional EIAs emphasise **land-use and habitat impacts**, while acoustic disturbance and behavioural changes remain relatively under-assessed.
2. **Weak Regulation during Peak Tourism:** Seasonal surges in **pilgrimage, tourism and vehicular movement** can intensify noise and ecological stress in sensitive habitats.
3. **Fragmented Conservation Planning:** Protected areas may safeguard individual habitats but fail to ensure **ecological connectivity across altitudinal gradients and movement corridors**.
4. **Gaps in Local-Level Data:** Limited monitoring of local populations and behaviour may prevent timely detection of **population stress, habitat shifts and ecological disturbances**.
5. **Balancing Development and Conservation:** Mountain infrastructure supports **livelihoods, tourism and pilgrimage**, requiring regulated and ecologically sensitive development rather than blanket exclusion.

Way Forward

1. **Adopt Soundscape-Sensitive Conservation:** Integrate **noise pollution and acoustic disturbance** into ecological assessments and establish quiet zones near ecologically sensitive habitats.
2. **Promote Regulated and Sustainable Tourism:** Adopt **carrying-capacity-based tourism, seasonal traffic management and low-impact pilgrimage infrastructure** to minimise ecological stress.
3. **Protect Altitudinal Ecological Corridors:** Maintain **vertical habitat connectivity** and integrate wildlife corridors into infrastructure planning to enable species to adapt to shifting climatic conditions.

4. **Strengthen Scientific Monitoring:** Use **passive acoustic monitoring, GIS, species-distribution models and climate projections** to track population trends and behavioural changes.
5. **Promote Community-Based Conservation:** Involve local communities in **habitat protection, ecological monitoring and sustainable tourism**, while linking conservation with livelihood opportunities.
6. **Adopt a Landscape-Level Approach:** Integrate **species protection, habitat conservation, connectivity, soundscape management and climate adaptation** into a unified conservation framework.

Conclusion

For Himalayan biodiversity, the objective should not merely be to preserve where species live today, but to preserve where they may need to live tomorrow and their ability to reach it.

SCIENCE AND TECHNOLOGY

5.1. ADITYA-L1 AND SOLAR FLARES

Context:

- Recently Aditya-L1 has detected small, short-lived brightening events on the Sun that occur hours before a major solar flare. These events were found to cluster around the same location where the major flare later occurs, suggesting they are early warning signs.



What Researchers Discovered

- Small, short-lived brightening events appear in active regions hours before major solar flares.
- Some of these events also produced X-rays, showing that magnetic energy was being released.
- These small events clustered around the exact area where the major flare later occurred.
- Repeated small energy releases may gradually destabilise the Sun's magnetic field, eventually triggering a major flare.
- The discovery could help scientists predict solar flares earlier and improve space-weather forecasting.

Significance of this Observation & The Study Details

- This could help scientists predict solar flares and improve space-weather forecasting, protecting satellites, astronauts, GPS and communication systems.
- The study was led by researchers from MAHE/Manipal Centre for Natural Sciences, with ISRO and Department of Space scientists, using UV and X-ray observations from Aditya-L1.

About Aditya-L1 Mission

- Aditya-L1 is India's first dedicated space mission to study the the photosphere, chromosphere and corona to understand solar activity of the Sun.
- It was launched by ISRO on 2 September 2023 using the PSLV-C57.
- The spacecraft is placed around the L1 (Lagrange Point 1), about 1.5 million km from Earth.
- L1 provides a continuous, unobstructed view of the Sun without Earth blocking it.
- Its 7 payloads observe the Sun in visible, UV and X-ray wavelengths to study solar flares, CMEs and solar wind, aiding space-weather forecasting.

What are Solar Flares

- Solar flares are sudden, powerful bursts of energy and radiation from the Sun.
- They occur when the Sun's magnetic fields suddenly break and reconnect, releasing huge energy.
- They are usually produced in active regions of the Sun, often around sunspots.
- Strong flares can release X-rays and ultraviolet radiation that reach Earth.
- They can disturb satellite communications, GPS, radio signals and power systems.

- Solar flares are an important part of **space weather** and can also be linked with **coronal mass ejections (CMEs)**.

5.2. ORV SAGAR MANTHAN

Context:

- Recently, India launched **ORV Sagar Manthan**, an advanced indigenous **Ocean Research Vessel**, built by **GRSE** for **NCPOR** under the **Ministry of Earth Sciences**, to strengthen deep-ocean exploration, marine scientific research, climate studies and India's maritime capabilities.



Some Key Facts

1. Nodal Ministry & Agencies

- Designed, engineered and constructed by:** Garden Reach Shipbuilders & Engineers Limited (GRSE), a defence Public Sector Undertaking (PSU).
- For:** National Centre for Polar and Ocean Research (NCPOR), under the **Ministry of Earth Sciences (MoES)**.

2. Mission Purpose and Strategic Succession

- Mission Alignment:** Direct operational asset under Vertical-4 (Deep Ocean Survey and Exploration) of India's flagship Deep Ocean Mission (DOM).
- Replacement:** It will gradually replace ORV **Sagar Kanya**, a 43-year-old vessel procured from Germany in 1983

3. Technical Specifications & Features

Feature	Technical Detail / Significance
Dimensions & Tonnage	89.5-m long and 18.8-m wide
Operational Capabilities	Max speed of 14 knots; capable of surveys up to depths of 6,000 metres (6 km) .
Station Keeping	Dynamic Positioning System: Holds coordinates precisely without anchor deployment.
Sensor Deployment	Drop Keels: Lowers acoustic instruments below the hull to avoid vessel noise and bubble interference.
Subsea Vehicles	Functions as a mothership to launch ROVs (Remotely Operated Vehicles) and AUVs (Autonomous Underwater Vehicles).
Certification	Dual-class certified by the Indian Register of Shipping (IRS) and American Bureau of Shipping (ABS) .

4. Operational & Research Verticals

- Deep-Sea Mineral Exploration:** Surveying mid-oceanic ridges to map **hydrothermal sulphide deposits**, polymetallic crusts, and critical raw materials.
- Geophysical & Seabed Mapping:** Executes 3D multibeam **bathymetric mapping**, sub-bottom sedimentary profiling, and multichannel seismic subsurface analysis.

- **Ocean-Climate Interactions:** Upper-air observations, Conductivity-Temperature-Depth (CTD) profiling, and water column sampling to study climate dynamics and Southern Ocean conditions.

GRSE's Growing Capabilities

- GRSE has nearly **four decades of experience** in building **survey vessels** for the Indian Navy.
- GRSE has delivered **four large survey vessels** to the Navy; **the latest, INS Sanshodhak**, was delivered in **March 2026**.
- Currently, GRSE is building nine warships, including:
 - **1 Project 17A** guided-missile frigate
 - 4 ASW-SWC corvettes
 - 4 Next-Generation Offshore Patrol Vessels (NGOPVs)

Project 17A (Nilgiri Class)

1. **Project 17A** is a programme to build **7 advanced stealth guided-missile frigates** for the Indian Navy.
2. **Builder:** GRSE – 3 ships; Mazagon Dock Shipbuilders Limited (MDL) – 4 ships.
3. It is an improved successor to the **Project 17 (Shivalik-class) frigates**.
4. Key features include **enhanced stealth, advanced sensors, improved automation and indigenous systems**.
5. **GRSE-built ships:** INS Himgiri, INS Dunagiri and INS Vindhyagiri.
6. **MDL –built ships:** INS Nilgiri, INS Udaygiri, INS Taragiri and INS Mahendragiri.

5.3. ISRO LAUNCHES ADVANCED EARTH OBSERVATION SATELLITE EOS-05

Context:

- Recently, the **Indian Space Research Organisation (ISRO)** launched **Earth-observation satellite EOS-05** aboard **GSLV-F17** from Satish Dhawan Space Centre, Sriharikota to establish persistent geo-imaging over the Indian subcontinent and adjoining regions.

About EOS-05 Earth Observation Satellite

- **First geosynchronous imaging satellite:** EOS-05 is India's first-ever imaging satellite from a **geosynchronous orbit (Orbital period equals Earth's rotation)**.
- **Payload Weight:** At 2,367 kg, EOS-05 is the **heaviest satellite ever** placed into orbit by a GSLV rocket.
- Replaces **EOS-03**, which was lost in the unsuccessful GSLV-F10 mission (August 2021).
- The satellite is designed to provide near-real-time observation ("**Eye in the Sky**") of Earth's surface.
- **Launch Vehicle:** **GSLV-F17** (3-stage, 51.7-meter-tall rocket with a cryogenic 3rd stage and a lift-off mass of ~420.5 tonnes).
- **Multi-Band Imaging:** Features advanced optical sensors across visible, infrared, multi-spectral, and hyperspectral bands.
- **Mission life:** 9 years.



- **Applications:** Agriculture, disaster management, water resources, forestry and urban planning.

What is Geosynchronous Satellite Launch Vehicle?

- **Geosynchronous Satellite Launch Vehicle (GSLV)** are **Indian rockets developed by ISRO**.
- It is primarily designed to launch **heavier communication and other satellites into Geosynchronous Transfer Orbit (GTO)**.
- **Three-stage vehicle:**
 - First stage – Solid-fuel core (S139) with four liquid strap-on boosters
 - Second stage – Liquid fuel (Vikas engine)
 - Third stage – **Cryogenic Upper Stage (CUS)** — the most technologically critical part
- **Variants:**
 - **GSLV Mk II** – Uses the indigenous cryogenic stage; operational since 2014 (after early failures).
 - **GSLV Mk III (now called LVM3)** – A more powerful, next-generation vehicle with a more powerful **CE-20 cryogenic engine**; used for larger missions like **Chandrayaan-2, Chandrayaan-3**, and crewed **Gaganyaan** test flights.
- **High-Profile Projects:**
 - GSLV/LVM3 variants have launched major missions such as Chandrayaan-2, Chandrayaan-3, GSAT, NVS, and OneWeb satellites, and are also designated for Gaganyaan human spaceflight missions.

Key Difference: PSLV vs GSLV

Feature	PSLV	GSLV Mk II
Primary use	Polar, Sun-synchronous & LEO satellites	Geosynchronous Transfer Orbit (GTO) & higher orbits
Stages	4 stages	3 stages + liquid strap-ons
Propulsion	Solid + Liquid stages	Solid + Liquid + Cryogenic
Cryogenic engine	No	CE-7.5

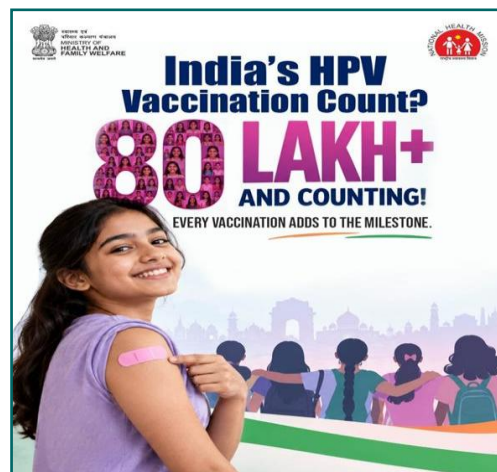
5.4. NATIONAL HPV VACCINATION CAMPAIGN & CERVICAL CANCER PREVENTION

Context:

- India achieved a major public health milestone by administering over **80 Lakh (8 million) doses** of the Human Papillomavirus (HPV) vaccine under the **National HPV Vaccination Campaign** within seven months of its rollout.

About National HPV Vaccination Campaign

- **Launch & Nodal Ministry:** Launched in **February 2026**; implemented by the **Ministry of Health and Family Welfare (MoHFW)**.
- **Target Beneficiaries:** **14-year-old adolescent girls**.
- **Annual Cohort Size:** Approximately **1.2 crore (12 million) girls** annually, based on **Registrar General of India (RGI) 2021** estimates.



- **Delivery Protocol:** Voluntary, free-of-cost single-dose vaccination with mandatory parental consent, delivered at Government health facilities.

State-Wise Coverage Highlights

- **100% Coverage** Achieved: Gujarat, Uttar Pradesh, Madhya Pradesh, and Mizoram.
- **More than 90%** Coverage Achieved: Bihar, Andhra Pradesh, and Assam.
- **Highest Absolute Volume:** **Uttar Pradesh** leads nationwide with over 22 Lakh adolescent girls vaccinated.

Monitoring Mechanism

- **U-WIN Platform:** Enables real-time district-level vaccination monitoring, identifies coverage gaps/missed beneficiaries, and supports resource allocation.
- **AEFI (Adverse Events Following Immunization) Management:** Ensures post-vaccination safety through trained Medical Officers and 24×7 referral hospital linkages for managing severe reactions, strengthening public trust and addressing vaccine hesitancy.
- **Community Engagement:** ASHAs, ANMs, teachers, pediatricians, gynecologists and AIIMS experts help address vaccine hesitancy and misinformation.

About HPV

- **Types:** Human Papillomavirus (HPV) is a group of over 200 related non-enveloped **DNA viruses**.
- **Primary Types:** HPV 16 and HPV 18 (responsible for ~70% of cervical cancers globally).
- **Genetic Material:** **Double-stranded circular DNA** enclosed within an icosahedral protein capsid (composed mainly of L1 and L2 proteins).

- **Transmission:** Direct skin-to-skin contact, **primarily sexual contact** (vaginal, anal, or oral).
- **Prevention:** HPV vaccination is highly effective when administered before exposure to the virus (**ideally between ages 9–14**).
- **Major Cancers:** HPV is strongly associated with cervical cancer and also contributes to cancers of the anus, penis, vulva, vagina and oropharynx.
- **Types of Vaccines:**
 - **Gardasil 9:** Nonavalent vaccine covering types 6, 11, 16, 18, 31, 33, 45, 52, and 58.
 - **Cervavac:** India's indigenous quadrivalent HPV vaccine developed by the Serum Institute of India (SII) covering types 6, 11, 16, and 18.

5.5. SPIDER VENOM SHOWS ANTI-CANCER POTENTIAL IN STEGODYPHUS SARASINORUM

Context:

- Recently, Indian researchers conducted the first detailed study of the venom gland of *Stegodyphus sarasinorum*, identifying bioactive molecules that showed effects against cancer cells in laboratory tests.



What Did the Researchers Study?

I. A Multi-Omics Approach

- Researchers combined multiple techniques to understand the venom gland at the molecular level:

- **Transcriptomics** → studies RNA/transcribed genes.
- **Proteomics** → identifies and studies proteins.
- **Metabolomics** → identifies small molecules/metabolites.
- **Confocal Raman Spectroscopy** → helps identify and map biomolecules within biological tissues.

II. Key Findings

- **31 protein components** were identified through transcriptomic analysis.
- **32 proteins** were identified through proteomic analysis.
- **81 metabolites** were detected using Ultra High-Performance Liquid Chromatography-Mass Spectrometry (UHPLC-MS)
- These included **amino acids, biogenic amines, nucleotides, nucleosides and organic acids.**

Cytotoxicity & Drug Discovery Potential

- **Cytotoxicity** means the ability of a substance to **damage or kill cells.**
- Venom-gland extracts were tested against **Dalton's Lymphoma Ascites (DLA) cancer cells.**
 - Dalton's Lymphoma Ascites (DLA) is a widely used transplantable mouse tumour model in cancer research
- The extracts demonstrated **dose-dependent cytotoxicity.**
- Higher concentrations resulted in greater destruction of cancer cells.
- This does not mean that spider venom is a proven cancer treatment. The findings are preliminary and laboratory-based.

Why is Spider Venom Interesting?

- Spider venoms contain diverse **peptides, proteins and other bioactive molecules.**
- Some venom components can interact with **ion channels, cell membranes and signalling pathways.**
- Earlier research has also investigated spider-venom compounds for potential **anticancer activity,** including against breast-cancer cells.

About *Stegodyphus sarasinorum*

- It is commonly known as the Indian cooperative spider, is a social species of velvet spider in the family Eresidae found across parts of **South and Southeast Asia.**
- **Habitat and Distribution:** Native to India, Sri Lanka, Nepal, and Myanmar.
- **Key Characteristics:**
 - Unlike most eresid spiders that live on the ground, *Stegodyphus sarasinorum* is arboreal (living in trees and bushes).
 - It is a **social spider**, living in permanent colonies.
 - It builds **communal silk nests** and can **cooperatively** capture prey.
 - Females practice **suicidal maternal care.** After hatching, spiderlings first feed on regurgitated fluids and eventually consume the mother entirely (matrphagy).
- Its venom represents a potential source of **bioactive molecules for pharmaceutical research.**

5.6. BADRI CATTLE

Context:

- Recently, a healthy Badri female calf was successfully born through Ovum Pick-Up and In Vitro Fertilization (OPU-IVF) technology, marking an important step towards the conservation and genetic improvement of Uttarakhand's indigenous Badri cattle breed.
- The reproductive technology, jointly developed by ICAR–National Dairy Research Institute (NDRI), Karnal, and G. B. Pant University of Agriculture and Technology, Pantnagar, marks an important step towards the conservation and genetic improvement of the Badri breed.



Key Highlights of the Achievement

- Breed Significance:** Badri cattle are the indigenous state animal of Uttarakhand.
- Collaborating Institutions:** ICAR–National Dairy Research Institute (ICAR–NDRI), Karnal, and G. B. Pant University of Agriculture and Technology, Pantnagar, with funding from the Uttarakhand Biotechnology Council, Haldi.

What is OPU-IVF?

- Ovum Pick-Up (OPU):** A technique in which **oocytes (egg cells)** are collected from **genetically valuable female animals**, generally through ultrasound-guided procedures.
- In Vitro Fertilization (IVF):** The collected oocytes are **matured and fertilised with semen under controlled laboratory conditions**.
- Embryo Transfer:** The resulting embryos are transferred into **synchronised recipient cows** for gestation.
- Advantage:** Enables the production of **multiple embryos from elite females**, potentially accelerating the multiplication of superior germplasm compared with conventional reproductive methods.

About Badri Cattle

- Indigenous Breed:** Badri cattle are an important **indigenous cattle genetic resource of Uttarakhand**.
- State Animal:** Badri cattle are recognised as the **state animal of Uttarakhand**.
- Conservation:** Advanced reproductive technologies such as **OPU-IVF and embryo transfer** can support their long-term conservation and genetic improvement.
- Characteristics:** Badri cattle are relatively small in size, with varied coat colors ranging from black, brown, red, and white to gray. Badri is reared mainly for **bullock power, milk and manure**.

Significance for Himalayan Livestock Development

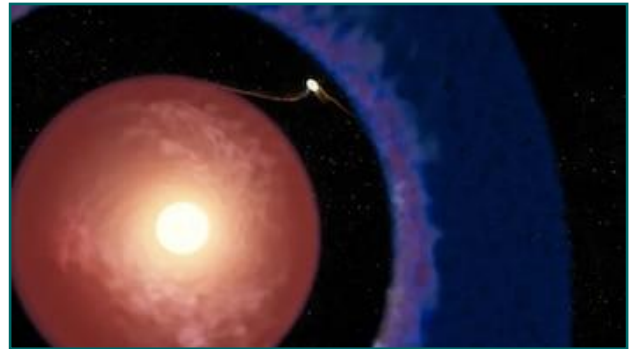
- The initiative demonstrates how **indigenous genetic resources can be integrated with advanced reproductive biotechnology**.
- It supports the **conservation of indigenous breeds**, faster multiplication and wider dissemination of **elite germplasm**, and genetic improvement of valuable cattle.

- It also promotes **sustainable livestock development** and strengthens cattle breeding in the **Himalayan region**.

5.7. ELIAS 2-24 B

Context:

- Astronomers have confirmed **Elias 2-24 b**, a gas-giant exoplanet that is **less than one million years old**, making it the **youngest known planet discovered so far**. The confirmation was made using **NASA-funded archival observations from the W. M. Keck Observatory**.



About Elias 2-24 b

- **Elias 2-24 b** is a **Jupiter-mass, gas-giant exoplanet** orbiting the young star **Elias 2-24**, located around **450 light-years from Earth** in a star-forming region.
- It is still embedded in the **natal circumstellar disk** of gas and dust and is believed to be actively accumulating material as it forms.
- **Youngest known planet:** Less than **1 million years old**, compared with the previous record holders around **PDS 70** and **WISPIT 2**, which are more than 5 million years old.
- **Wide orbit:** It lies about **55 Astronomical Units (AU)** from its host star - 55 times the average Earth–Sun distance.
- **Still forming:** The planet is located within a prominent **gap in the circumstellar disk**, where it is actively accreting gas and dust.

How was it detected?

- **ALMA** first detected a gap in the dusty disk around Elias 2-24, while the **VLT** identified a faint object within it.
- **Archival Keck Observatory** images from 2018–2020 confirmed the object's movement, establishing it as a planet.
- **Coronagraphic Detection:** Detected using high-contrast coronagraphy, which blocks the intense glare of the host star and enables the detection of faint infrared signatures in archival images captured between 2018 and 2020.

Future observations

- **NASA's Nancy Grace Roman Space Telescope**, with its advanced coronagraph, will improve the detection of young and distant exoplanets hidden by stellar glare.

ART AND CULTURE

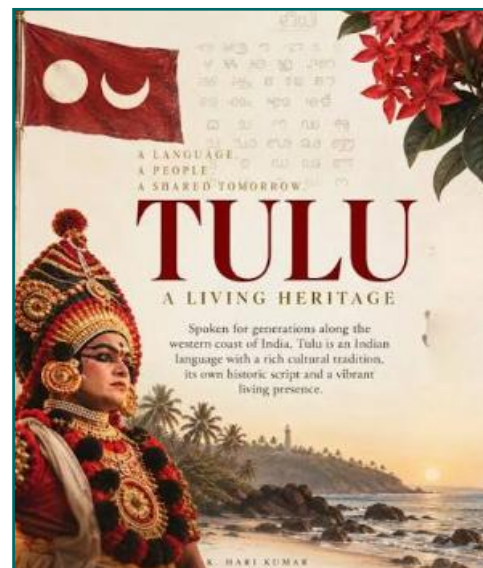
6.1. TULU GETS ADDITIONAL OFFICIAL LANGUAGE STATUS IN KARNATAKA

Context:

- The **Karnataka Cabinet** decided to accord **additional official language status to Tulu** in specified districts of Karnataka.

About Tulu

- Tulu** is a **Dravidian language** spoken predominantly in **Dakshina Kannada and Udupi** districts of Karnataka.
- It is also spoken by communities in neighbouring regions.
- Tulu has a long literary and cultural tradition and is associated closely with the **linguistic heritage of coastal Karnataka**.
- The **Census** recognises Tulu as an important language spoken by a significant linguistic community.
- Tulu is **not included in the Eighth Schedule of the Constitution**.



Constitutional Provision

- Article 345** empowers a State Legislature to adopt **one or more languages in use in the State** or **Hindi** as the official language(s) of the State.
- Article 346:** Governs the official language for communication between one State and another State, or between a State and the Union.
- Article 347:** Contains special provisions relating to a language spoken by a section of the population of a State (Presidential direction to recognise a language if requested).
- Karnataka currently has Kannada as its official language.
- Declaring Tulu as an **additional official language** would require the necessary **legal/legislative process** (e.g., amending Section 2 of the Karnataka Official Language Act, 1963), beyond a Cabinet decision alone.

Tulu in Education

- Tulu is taught as an **optional language** in some educational institutions.
- The language has a strong literary and cultural tradition in the **Tulu-speaking region**.

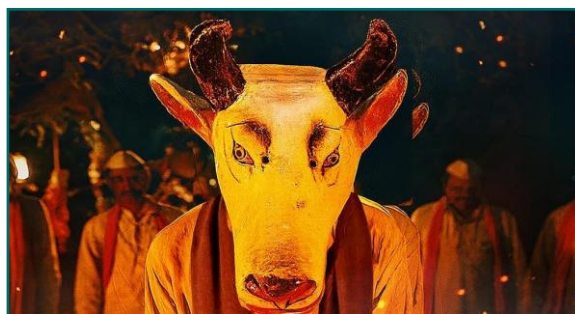
6.2. GONDHAL CHOSEN AS INDIA'S OFFICIAL OSCAR ENTRY FOR 2027

Context:

- Recently, the Marathi film **Gondhal** has been selected as India's official entry for the Best International Feature Film category at the 99th Academy Awards (Oscars 2027).

About Marathi film Gondhal

- Language:** Marathi



- **Director:** Santosh Davakhar, who won the **Silver Peacock for Best Director** at IFFI 2025
- **Setting:** Rural Maharashtra
- **Theme:** Traditional **Gondhal ritual** and its interaction with social and personal conflicts.

What is Gondhal?

- **Gondhal** is a traditional **ritualistic folk performance of Maharashtra**, associated with devotional practices.
- It involves **music, dance, narration and ritual elements** and is traditionally performed in honour of certain deities.
- The film derives its title and cultural setting from this traditional performance tradition.



THE OSCARS

ACADEMY AWARDS | ART • EXCELLENCE • GLOBAL RECOGNITION

The Oscars

The **Academy Awards**, popularly known as the **Oscars**, are presented annually by the **Academy of Motion Picture Arts and Sciences (AMPAS)**.

They recognise **artistic and technical excellence** in filmmaking across various categories.

The awards were first presented in **1929** in Hollywood, California.



India's Association with the Oscars



Bhanu Athaiya became the first Indian to win an Oscar for **Best Costume Design** for *Gandhi* in **1983**.



Satyajit Ray received an **Honorary Academy Award** in **1992** for his exceptional contribution to cinema.



A.R. Rahman won **two Oscars** for *Slumdog Millionaire* in **2009** — **Best Original Score** and **Best Original Song**.



Gulzar shared the **Best Original Song** Oscar with **A.R. Rahman** for "**Jai Ho**" from *Slumdog Millionaire*.



Resul Pookutty won the Oscar for **Best Sound Mixing** for *Slumdog Millionaire* in **2009**.



The Elephant Whisperers won the **Best Documentary Short Film** award at the **95th Academy Awards** in **2023**.

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MISCELLANEOUS

7.1. CO-PRODUCTION OF JAVELIN FOR INDIAN DEFENCE FORCES

Context:

- Recently Tata Advanced Systems Limited (TASL) has signed an MoU with Javelin Joint Venture (JJV)-a partnership of Raytheon and Lockheed Martin-to explore co-producing Javelin Anti- Tank Guided missiles in India.



About the Javelin Missile System

- Type:** The Javelin All Up Round is a man-portable, fire-and-forget **anti-tank guided missile (ATGM)** system.
- Origin:** Jointly produced by **Raytheon** and **Lockheed Martin** through the Javelin Joint Venture of the United States.
- Procurement Route:** Acquired by India via **Foreign Military Sales (FMS)**, a US government-to-government arms transfer mechanism, invoked here under emergency procurement powers.

About Anti-Tank Guided Missile (ATGM)

- ATGM** is a **precision-guided missile designed to destroy or disable armoured targets**, particularly tanks.
- It uses guidance technologies such as **infrared, laser or command guidance** to accurately track and hit targets.
- ATGMs can be **man-portable, vehicle-mounted or helicopter-launched**, making them useful across different combat situations.
- They are an important **anti-armour weapon** for modern infantry and mechanised forces.
- Some modern ATGMs like **Javelin** have **fire-and-forget capability**, allowing the operator to move or take cover after launch.

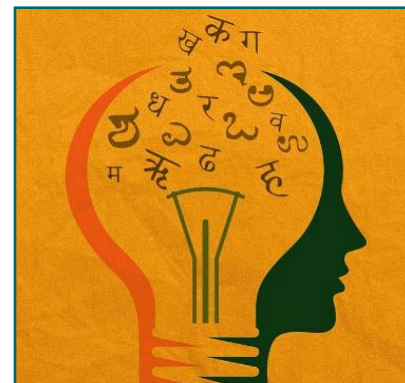
About Tata Advanced Systems Limited (TASL)

- TASL**, the **defence and aerospace arm of the Tata Group**, develops and manufactures **aircraft structures, missiles, radars, unmanned systems and other advanced defence technologies**.
- Key Projects**
 - C295 aircraft:** TASL and Airbus are jointly involved in manufacturing **C295 transport aircraft** for the Indian Air Force at the Final Assembly Line in **Vadodara, Gujarat**. It is the **first private-sector aircraft Final Assembly Line in India**.
 - Airbus H125 helicopter:** TASL inaugurated India's **first private-sector helicopter Final Assembly Line** at **Vemagal, Karnataka**, in 2026.
 - C-130J Super Hercules:** TASL is a global single-source provider of **empennages** for the aircraft.
 - Defence systems:** Its portfolio includes **missiles, radars, UAVs, satellites, weapon systems, sensors, C4I systems and armoured vehicles**.

7.2. TEACHERS AS MULTIPLIERS OF HUMAN CAPITAL

Context:

- Teachers are the **critical link between educational infrastructure and actual learning outcomes**, transforming knowledge into capabilities and skills into employability. They also nurture **values, responsible citizenship and social inclusion**, enabling greater social mobility. With **10.12 million school teachers in 2024–25**, their collective impact on India's human capital is immense. **Thus, the quality of India's human capital depends substantially on the quality of its teachers.**



Significance of Teachers in Human Development and Nation-Building

1. Builders of Human Capital

- Transform education into capabilities:** Teachers convert schooling into knowledge, skills, problem-solving ability and employability, thereby improving productivity and the quality of human capital.
- Enable personalised learning:** With **10.12 million teachers** and an overall pupil-teacher ratio of about **24** in 2024–25, effective teacher availability can facilitate individual attention and early identification of learning gaps.

Teacher → Learning → Skills → Productivity → Human Capital → Growth

2. Improving Learning Outcomes

- Shift from access to learning:** India's challenge is increasingly not merely getting children into school but ensuring that they actually learn. ASER 2024 found only **23.4% of Class 3 government-school children** could read a Class 2-level text.
- Strengthen foundational learning:** Teachers are central to remedial teaching, foundational literacy and numeracy, activity-based learning and continuous assessment.

The real measure of educational expansion is not enrolment, but what children are actually able to understand and apply.

3. Agents of Social Justice

- Break inherited disadvantage:** Teachers can help children facing poverty, caste, gender, disability and geographical disadvantages acquire capabilities necessary for upward mobility.
- Convert equality into opportunity:** By providing additional support to disadvantaged learners, teachers can help translate **constitutional equality into substantive equality of opportunity.**

Good Teacher → Better Learning → Capability → Opportunity → Social Mobility

4. Drivers of Women Empowerment

- Challenge gender stereotypes:** Teachers can encourage girls to pursue STEM, sports, leadership and higher education while challenging discriminatory classroom practices.
- Build agency and participation:** Gender-sensitive education can strengthen confidence, decision-making and capabilities, contributing to women's economic and social empowerment.

Education → Capability → Agency → Economic Participation → Empowerment

5. Builders of Constitutional Citizenship

- Internalise constitutional values:** Teachers can translate the Preamble's ideals of **justice, liberty, equality and fraternity** from textbook principles into everyday behaviour.

- **Develop responsible citizens:** By encouraging respect for diversity, rights, duties and democratic participation, teachers strengthen constitutional culture and democratic resilience.

Constitutional Values → Civic Behaviour → Social Trust → Democratic Resilience

6. Promoters of Social Cohesion

- **Transform diversity into learning:** Classrooms bring together children across caste, religion, language, region and socioeconomic backgrounds, creating opportunities for mutual understanding.
- **Challenge inherited prejudices:** Teachers can cultivate empathy, dialogue, tolerance and cooperation, preventing social divisions from being reproduced across generations.

The classroom can become India's first laboratory of fraternity.

7. Cultivators of Scientific Temper

- **Develop rational inquiry:** Teachers encourage students to question claims, examine evidence, distinguish fact from opinion and develop a spirit of inquiry.
- **Build resilience against misinformation:** In the age of fake news, deepfakes and AI-generated content, critical thinking enables citizens to verify information before accepting or sharing it.

Article 51A(h) — scientific temper, humanism and the spirit of inquiry and reform.

8. Builders of Character and Ethical Citizens

- **Develop ethical values:** Teachers cultivate integrity, empathy, fairness, discipline, responsibility and compassion through classroom practices and interactions.
- **Lead by example:** A teacher who demonstrates fairness, honesty and accountability converts abstract ethical principles into lived behaviour that students can internalise.

Values are transmitted most effectively when they are practised, not merely preached.

Role Model → Internalisation of Values → Ethical Behaviour → Public Good

9. Converters of Demographic Potential into Dividend

- **Build employability:** Teachers transform India's young population into skilled, adaptable and productive human resources.
- **Promote innovation:** By nurturing creativity, problem-solving and entrepreneurship, teachers help convert population advantage into productivity advantage.

Young Population → Education → Skills → Employment → Productivity → Growth

10. Human Anchors in the Age of AI

- **AI can augment learning:** Artificial intelligence can provide personalised content, information, feedback and learning assistance, enabling teachers to focus more on higher-order learning.
- **Teachers provide the human dimension:** Empathy, mentorship, contextual judgement, motivation and ethical guidance remain central to meaningful education.

Technology can personalise learning, but teachers humanise education.

Challenges Before Teachers

1. Uneven Teacher Distribution

- Despite **10.12 million teachers in 2024–25**, **1,04,125 schools** remain single-teacher schools.
- This particularly affects rural, remote and disadvantaged areas by limiting subject diversity and individual attention.

2. Large Student–Teacher Gaps

- Single-teacher schools together serve around **3.38 million students**, indicating that teacher availability remains uneven despite improvements in aggregate numbers.
- The challenge is therefore not only “**how many teachers?**” but “**where are they located?**”

3. Poor Learning Outcomes

- **ASER 2024:** Only **23.4% of Class 3 government-school children** could read a Class 2-level text.
- This shows that expansion in enrolment has not automatically translated into **foundational learning**.

4. Administrative Burden

- Teachers often undertake substantial **non-teaching and administrative responsibilities**, reducing the time available for classroom teaching, assessment and mentoring.
- This weakens the teacher's role as a **learning facilitator**.

5. Inadequate Professional Development

- Rapid changes in pedagogy, technology and AI require continuous teacher training.
- Gaps in professional development can limit teachers' ability to address **diverse learning needs and new technological challenges**.

6. Digital, Regional and Linguistic Inequalities

- Rural–urban disparities, the **digital divide and multilingual classrooms** make uniform teaching approaches difficult.
- Teachers often have to bridge differences in access, language, learning levels and socioeconomic background.

7. Rote Learning and Examination Pressure

- Excessive focus on examinations can incentivise **memorisation over critical thinking, creativity and application**.
- This creates the core contradiction: **India has expanded educational access faster than it has ensured uniformly high-quality learning**.

Way Forward: Transforming Teachers into Nation-Building Assets

1. Shift from Enrolment to Learning Outcomes

- **Focus on foundational learning:** Move from *Attendance* → *Learning* → *Application* → *Capability*, with foundational literacy and numeracy as the first priority.
- **Outcome-based teaching:** Regular assessment and remedial support should identify and close learning gaps.

2. Strengthen Continuous Teacher Development

- **Continuous professional development:** Regular training in pedagogy, assessment, inclusive education, digital tools and AI literacy.
- **Peer learning:** Encourage teacher communities, mentoring and sharing of classroom practices.

3. Reduce Non-Teaching Burden

- **Protect teaching time:** Minimise administrative and non-academic duties so teachers can focus on teaching, assessment and mentoring.
- **Strengthen support systems:** Use administrative staff and digital systems for routine documentation and reporting.

4. Ensure Equitable Teacher Distribution

- **Rational deployment:** Match teacher availability with student needs and subject requirements, particularly in rural, tribal and remote areas.
- **Incentivise difficult postings:** Provide suitable incentives, housing and infrastructure to attract and retain teachers in underserved regions.

5. Move from Rote Learning to Critical Thinking

- **Experiential pedagogy:** Use projects, discussions, experiments, field-based learning and problem-solving.
- **Develop higher-order skills:** Move from **Rote Learning** → **Understanding** → **Application** → **Critical Thinking**.

6. Use Technology and AI as Enablers

- **Augment teachers:** Use AI and digital platforms for personalised learning, identifying learning gaps and generating teaching resources.
- **Retain the human element:** Technology should reduce repetitive work while teachers remain central to **mentorship, empathy, ethics and social-emotional learning**.

7. Restore Teacher Professional Dignity

- **Empower professionals:** Provide greater autonomy, continuous development, adequate infrastructure and supportive working conditions.
- **Balance autonomy with accountability:** Teachers should have freedom to innovate while being evaluated on meaningful learning outcomes.

Conclusion

A nation's strength ultimately depends on the **capabilities and character of its people**. India's one crore-plus teachers are therefore crucial nation-building assets. **Investing in teachers means investing in human capital, social justice, ethical citizenship and India's democratic future.**

7.3. MAINSTREAMING MENTAL HEALTHCARE FOR A RESILIENT VIKSIT BHARAT

Context:

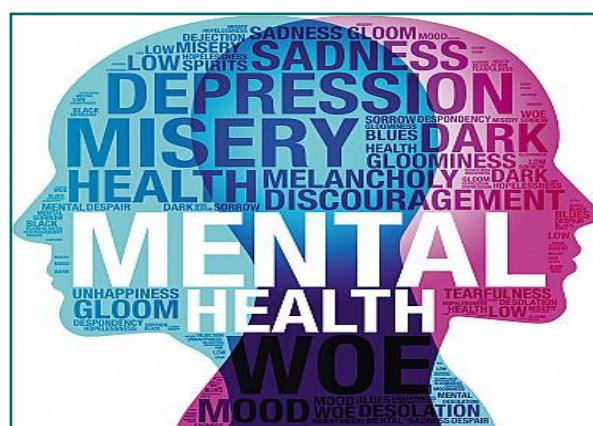
- India's "Healthcare for All" vision under Viksit Bharat 2047 emphasizes primary and preventive care, yet achieving true economic resilience requires urgently mainstreaming mental health into the core public health agenda.

Introduction

Historically marginalized as a niche welfare issue, mental wellness is now recognized as a core pillar of public health. To transform India's healthcare ecosystem, policymaking must shift from a purely clinical approach to a community-driven, rights-based framework that addresses the massive underlying psychological burden.

What is Mental Health?

- Mental health refers to an individual's emotional, psychological, and social well-being that directly influences daily behavior and stress management.



- The World Health Organization defines it as a state of well-being enabling people to realize their abilities and contribute meaningfully to their communities.

Current Scenario in India

- Approximately 10.6% of Indian adults suffer from mental disorders, translating to nearly 200 million people living with a diagnosable condition.
- Urban areas exhibit a significantly higher prevalence of 13.5% compared to the 6.9% recorded in rural regions.
- Suicide has become a leading cause of death among Indian youth, with the national rate reaching 12.6 per 100,000.
- Over 60% of patients visiting primary care facilities present a diagnosable mental disorder that worsens chronic physical conditions.

Drivers of the Crisis

- High-stakes exam systems and a low tolerance for failure trigger severe psychological strain among students.
- High youth unemployment, family conflicts, and societal expectations breed chronic frustration and despair.
- Deep-rooted social stigma prevents open dialogue, causing emotional suffering to be internalized until a crisis point is reached.

Key Government Initiatives

- The Mental Healthcare Act (2017) decriminalized suicide and legally guaranteed the right to affordable psychiatric care.
- The Tele-MANAS initiative launched in 2022 provides a free 24x7 mental health counseling helpline across 20 Indian languages.
- The Ayushman Bharat scheme converts primary health centers into Arogya Mandirs to offer basic counseling at the grassroots.
- The government has established 25 Centres of Excellence and upgraded 47 PG Departments to train mental health specialists.

Significance of Integrating Mental Healthcare

- Integrating universal depression screening into primary care could generate massive net annual savings equivalent to 0.32% of the GDP.
- Proactive psychiatric care actively reduces the incidence and severity of non-communicable diseases to lower national healthcare costs.
- Addressing workplace burnout and job stress preserves the demographic dividend by preventing a projected USD 1.03 trillion economic loss by 2030.
- Transitioning mental health from isolated clinical wards to community support networks significantly fosters grassroots societal empathy.
- Mainstreaming this care fulfills the anti-discrimination mandates of the UNCRPD and protects the fundamental constitutional right to health.

Challenges in the Ecosystem

- More than 84.5% of individuals requiring care remain entirely untreated due to an absence of accessible facilities in underserved regions.

- India faces a critical human resource deficit with only 0.75 psychiatrists per 100,000 people against the WHO standard.
- Mental health receives barely 1% of the total national health budget despite an estimated policy requirement of ₹93,000 crore.
- There is a stark execution gap between the ambitious aims of the National Mental Health Policy and actual ground-level resource allocation.
- The majority of existing funds and infrastructure remain skewed toward urban tertiary institutions rather than decentralized community centers.

Way Forward

- The government must train and incentivize India's one million ASHA workers to identify and refer common disorders at the village level.
- Policymakers should systematically fund proven peer-support interventions like Atmiyata to affordably bridge the awareness-to-treatment gap.
- The State must extend robust outpatient mental health benefits under the PMJAY and enforce strict medical insurance parity.
- The health ministry needs to establish an autonomous coordinating body modeled on NACO to streamline resources and evidence-based interventions.
- The education department must integrate early intervention programs for anxiety and behavioral issues directly into school curriculums.
- The government should accelerate specialist capacity building by offering targeted scholarships in clinical psychology and psychiatric social work.

Conclusion

The Supreme Court's landmark verdict rightfully elevates mental health to an integral component of the right to life under Article 21. By prioritizing decentralized care, dismantling social stigma, and ensuring robust financial protection, India can guarantee that mental well-being serves as the resilient foundation of a truly inclusive nation.

7.4. PROTEIN IN INDIA: FROM NUTRITIONAL NEED TO SOCIAL-MEDIA FAD

Context:

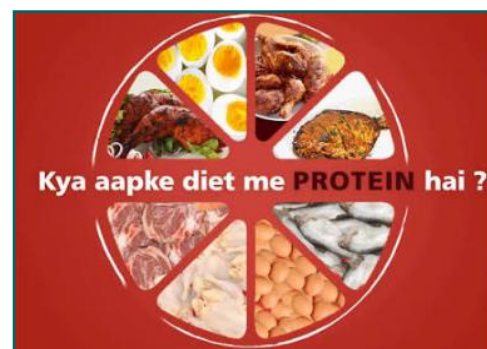
- Protein is increasingly promoted on social media through **shakes, high-protein foods and “proffee” (protein + coffee)**, shifting the focus from **overall diet quality to protein quantity**. The concern is not protein itself, but its **reduction to a marketing number and social-media trend**.

Introduction

In the age of fitness influencers, protein shakes and “high-protein” labels, protein has moved from the kitchen table to the centre of India's nutrition discourse. Yet, the growing obsession with counting grams risks overlooking a more fundamental question, whether people are consuming a diverse, affordable and wholesome diet.

Why is Protein Important?

- **Growth and development:** Supports growth and development of body tissues, especially during childhood.



It is crucial during adolescence when the body undergoes rapid physical development.

- **Muscle maintenance and repair:** Helps build, maintain and repair muscles after physical activity. Its importance increases with regular exercise and ageing.
- **Immunity:** Provides building blocks for antibodies and other immune-related proteins. Adequate protein intake therefore supports an effective immune response.
- **Healing and recovery:** Supports tissue formation and repair after injury, illness or surgery. It also aids faster recovery by providing essential amino acids.
- **Enzymes and hormones:** Proteins form enzymes and certain hormones that regulate body functions. They are essential for metabolism, growth and other physiological processes.
- **Satiety:** Protein promotes greater and longer-lasting feelings of fullness. This can help regulate appetite and support healthy dietary patterns.

India's Protein Requirement

- **Recommended intake:** ICMR–NIN (Indian Council of Medical Research - National Institute of Nutrition) recommends around **0.83 g protein/kg body weight/day** for a healthy Indian adult. This provides the baseline protein requirement for maintaining normal body functions.
- **For a 60-kg adult:** A 60-kg healthy adult requires roughly **50 g of protein per day**. Actual needs may vary depending on age, activity level and health status.
- **Children and adolescents:** Require relatively higher protein intake to support rapid growth and development. Their needs vary with age, body weight and stage of development.
- **Pregnant and lactating women:** Have increased protein needs to support foetal growth and milk production. Adequate intake is important for maternal and child health.
- **Sportspersons:** May require higher protein intake due to increased muscle activity and tissue repair. Requirements depend on the type, intensity and duration of training.
- **Older adults:** May need greater attention to protein intake to reduce age-related muscle loss. Adequate protein supports muscle maintenance and physical function.
- **Illness and recovery:** Protein needs may increase during recovery from illness, injury or surgery. It supports tissue repair, healing and restoration of body functions.

Protein requirements are individualized not one-size-fits-all.

Protein: Beyond the Hype

- **Protein deficiency:** The concern in India is often **low dietary diversity and protein adequacy**, rather than complete absence of protein.
- **Protein anxiety:** Social media promotes the misconception that **more protein is always better** and supplements are essential for everyone.
- **Protein quality:** Plant proteins can meet amino-acid needs when consumed through a **varied and balanced diet**; specific combinations at every meal are not essential.
- **Social-media influence:** Influencer-driven content can **oversimplify nutrition and promote commercial products**, replacing evidence-based dietary advice with protein-centric trends.
- **Supplements with caution:** Whole foods should remain the foundation, while supplements may be useful for **specific needs such as athletes, illness or GLP-1 users**.

What Constitute Wholesome Nutrition

- **Wholesome meal:** A balanced plate should combine **carbohydrates, protein, fibre, healthy fats and micronutrients** rather than prioritising one nutrient.

- **Indian dietary approach:** Traditional meals like **rice–dal, roti–chana and idli–sambar** can be strengthened through greater dietary diversity and balance.
- **Adequacy:** Nutrition should provide **sufficient nutrients to meet the body’s physiological requirements**.
- **Individualisation:** Dietary needs should be tailored to **age, activity, health status, medical history and lifestyle**.
- **Avoidance of excess:** Excess intake of one nutrient **cannot compensate for deficiencies in others** and may create nutritional imbalance.
- **ABCDE approach:** Effective nutrition assessment considers **anthropometric, biochemical, clinical, dietary and exercise-related factors** before designing a diet.

Way Forward: Towards Holistic and Evidence-Based Nutrition

1. **Shift from nutrient-centric to diet-centric nutrition:** Promote **balanced, diverse and wholesome diets** rather than focusing excessively on individual nutrients.
2. **Promote affordable and diverse protein sources:** Encourage **pulses, millets, eggs, dairy, soy, nuts, seeds and locally available foods** to improve protein adequacy.
3. **Strengthen nutrition literacy:** Equip citizens to understand **protein requirements, food labels, serving sizes and the difference between evidence and marketing claims**.
4. **Ensure targeted nutritional guidance:** Develop **age, activity and disease-specific** dietary advice, particularly for children, elderly, pregnant women and people with chronic conditions.
5. **Regulate nutrition misinformation and marketing:** Strengthen **evidence-based communication, responsible health advertising and food-labelling standards** to counter misleading claims.
6. **Integrate nutrition with healthy lifestyles:** Promote **adequate nutrition, regular physical activity and resistance exercise** as a combined strategy for long-term health.
7. **Revitalise India’s traditional food systems:** Modernise and diversify **traditional Indian meals** to improve nutritional quality without replacing them with ultra-processed or highly marketed products.

Conclusion

The protein debate reflects a larger transformation in India's food culture—from **traditional dietary wisdom to quantified, market-driven nutrition**. Protein is indispensable, but **health cannot be measured in grams of protein alone**. The goal should not be a “high-protein diet”, but a **high-quality, diverse and affordable diet in which protein is one essential component of a wholesome meal**.

7.5. ANATOMY OF INDIA'S GROUNDWATER CRISIS AND AGRARIAN INEQUALITY

Context:

- According to the 2025-26 Dynamic Groundwater Assessment, Punjab’s extraction rate has surged to 152%, with 72% of its blocks categorized in the critically over-exploited 'red zone'. This severe depletion is transforming water access into a concentrated form of wealth, widening the economic divide between marginal and large-scale farmers.



Introduction

Groundwater constitutes the invisible bedrock of India’s water security, fulfilling 62% of irrigation, 85% of rural, and 50% of urban water demands. However, policy-induced over-pumping and climate

vulnerabilities are rapidly exhausting aquifers, necessitating an urgent shift toward decentralized, community-led management to protect ecological stability and agrarian equity.

Key Facts Regarding Groundwater

1. Groundwater is freshwater stored in subterranean layers called aquifers, comprising nearly 99% of Earth's liquid freshwater.
2. **National Extraction Status:** India extracts 245.64 Billion Cubic Meters (BCM) annually, representing a national extraction rate of 60.47%, keeping aggregate usage within the 446.90 BCM annual replenishment capacity.
3. **Punjab's Hydrological Deficit:** The principal consumer in the state is irrigation for rice and wheat, which accounts for nearly 25 BCM per year.
4. **Deepening Wells:** The fraction of observation wells with water dropping below 40 meters in the post-monsoon period grew by two percentage points between 2022 and 2025.
5. **Governance Mandate:** Water governance primarily rests with State Governments, supported technically by the Centre, directly aligning with Sustainable Development Goals 6 (Clean Water), 11, and 12.

What are the Key Factors Driving Groundwater Depletion in India?

1. **Distorted Economic and Policy Incentives:** Free agricultural electricity incentivizes unregulated pumping, while the Minimum Support Price (MSP) system heavily favors water-guzzling crops, eliminating the financial risk of over-extraction.
2. **Demographic and Urban Pressures:** Rapid population growth (reaching 1.45 billion between 2016–2023) and urbanization create impermeable "concrete sealing," blocking rainwater infiltration and causing severe cones of depression.
3. **Climate Change and Hydrological Disruption:** Increasing rainfall variability in the Southwest Monsoon reduces natural aquifer replenishment, while rising temperatures simultaneously elevate crop water demand.
4. **Archaic Legal Framework:** The Indian Easements Act, 1882, treats groundwater as a private property right linked to land ownership rather than a common-pool resource, paralyzing collective management.
5. **Institutional Fragmentation:** Agencies like the CGWB, CPCB, and Ministry of Jal Shakti operate in silos, compounded by the Water (Prevention and Control of Pollution) Act, 1974, which suffers from lax enforcement and regulatory loopholes.

How does groundwater depletion widen the gap between farmers?

1. **The Capital Gatekeeper:** As the water table plummets, only wealthier farmers can afford the substantial capital required to install deeper, high-capacity tube wells.
2. **Unregulated Dependencies:** Marginal landholders, despite using water more efficiently, are forced into purchasing water from larger landowners, systematically transferring their wealth upward.
3. **Inverse Productivity:** Studies in Sangrur and Barnala indicate that while larger farms earn higher overall returns, they actually record lower groundwater productivity for paddy compared to smaller farms.

What are the Key Government Initiatives for Groundwater Management and their Achievements?

1. **Regulatory Framework:** 21 States/UTs (including Bihar and Himachal Pradesh) have adopted the Model Groundwater Bill, 2017, coordinated by the National Interdepartmental Steering Committee (NISC).

2. **Nationwide Conservation Campaigns:** The Jal Sanchay Jan Bhagidari (JSJB) scheme completed 39,60,333 artificial recharge works by January 2026, working alongside Jal Shakti Abhiyan (JSA: CTR) for geo-tagging and borewell revitalization.
3. **Scientific Assessment & Planning:** NAQUIM 2.0 delivers granular, Panchayat-level aquifer maps, utilizing surveillance data from 43,228 CGWB monitoring stations.
4. **Community-Led Schemes:** Atal Bhujal Yojana promotes localized management in 7 stressed states, while Mission Amrit Sarovar targets the creation of 1-acre ponds (10,000 cubic meter capacity) across all districts.
5. **The Master Plan:** The Artificial Recharge to Groundwater-2020 envisions 1.42 crore terrain-specific structures to capture 185 BCM of additional recharge.

The Strategic Significance of Groundwater Security

1. **Foundation of Food Security:** Reliable, on-demand subterranean irrigation is the fundamental driver of the high-yield rice-wheat cropping system.
2. **Rural Livelihood Anchor:** Sustains the broader agricultural economy and allied sectors, acting as the primary income base for millions of farmers.
3. **Domestic Hydrological Backbone:** Directly meets the bulk of the nation's domestic drinking water and sanitation requirements, crucial for public health.
4. **Drought Resilience:** Acts as a vital subterranean buffer that mitigates the impacts of erratic monsoon rainfall and seasonal dry spells.
5. **Poverty Alleviation:** Equitable access to irrigation capital is directly correlated with poverty reduction and upward mobility among tenant cultivators.

Key Challenges Confronting Effective Aquifer Governance

1. **Pervasive Contamination:** Industrial effluents (e.g., Kanpur tanneries) and fertilizer runoff dangerously pollute aquifers with nitrates, fluoride, and heavy metals like chromium and uranium.
2. **Saline Intrusion:** Coastal over-pumping, compounded by sea-level rise, has permanently contaminated freshwater reserves across 28 out of 33 districts in Gujarat.
3. **Crop Switching Barriers:** Farmers hesitate to abandon monocultures due to unaddressed uncertainties in storage, alternative pricing, and processing infrastructure.
4. **Efficiency Overwhelmed by Scale:** Despite state interventions, overall extraction volumes continually outpace localized conservation efficiency gains, resulting in only a marginal reduction in over-exploited blocks.
5. **Voluntary Scheme Limitations:** Conservation initiatives like Punjab's 'Pani Bachao, Paisa Kamao' suffer from low enrollment because they rely on optional participation rather than default, mandatory integration.

Way Forward

1. **Water-Smart Agricultural Practices:** Accelerate the adoption of micro-irrigation and zero tillage by converging PMKSY with the Atal Bhujal Yojana in highly stressed regions.
2. **Institutional Re-engineering:** Replace colonial-era property laws with the public trust doctrine and empower local Aquifer Management Committees (AMCs) to enforce limits using NAQUIM 2.0 data.
3. **Digital Water Command System:** Establish a national IoT sensor network connected to the 'Bhu-Neer' AI platform for predictive analytics and real-time volumetric monitoring at the connection level.
4. **Financial Restructuring:** Shift to a Direct Benefit Transfer (DBT) model for electricity, paying farmers for unused pumping units, and implement a Groundwater Security Cess on industries.

5. **Scale Nature-Based Solutions:** Mandate urban Rainwater Harvesting (RWH) bylaws, recycle treated wastewater, and deploy Managed Aquifer Recharge (MAR) tailored to specific terrains (e.g., biochar filtration for agricultural runoff).
6. **Foster Climate Resilience:** Integrate climate-resilient crops (millets, pulses) into state procurement policies and provide communities with simplified Water Budgeting Tools to build local stewardship.
7. **Subsidize the Cultivator, Not Extraction:** Redirect welfare to directly support smallholders and tenant farmers to collectivize irrigation infrastructure, ensuring benefits follow the actual tiller rather than the pump owner.

Conclusion

Groundwater depletion has evolved from a purely ecological concern into a severe crisis of agrarian equity. Achieving long-term sustainability requires dismantling distorted power subsidies, embracing the public trust doctrine, and ensuring that conservation incentives directly empower the cultivator through localized, climate-resilient stewardship.

7.6. ANATOMY OF MANIPUR'S HILL-VALLEY FAULT LINES

Context:

- Following the end of **President's Rule** in February 2026 and the return of select tribal legislators to the Assembly, political channels have begun reopening; however, an outbreak of **Naga-Kuki-Zo clashes** has created a destabilizing second ethnic fault line in the hill districts.



Introduction

Internal security in multi-ethnic border states requires preserving institutional legitimacy alongside the **rule of law**. In Manipur, while the political divide between the valley and the hills shows tentative signs of thawing, resurgent territorial conflicts within the hills and severe **humanitarian crises** present a complex challenge to state capacity.

Transition Towards Political Normalcy

- **Restoration of Civilian Governance:** The revocation of **President's Rule** in February 2026 led to the installation of an elected government under a new Chief Minister, accelerating reconciliation efforts.
- **Abatement of Routine Violence:** Everyday physical clashes between the **Meitei and Kuki-Zo** communities have abated over the three years following the May 2023 unrest.
- **Reclaiming Constitutional Space:** Two Kuki-Zo MLAs attended the Assembly session, defying the boycott directive issued by the **Kuki Inpi Manipur** that demanded a separate administration prior to political re-engagement.
- **Institutional Dialogue:** The return of legislators reflects an acknowledgment that formal legislative platforms must function even while core ideological contestations persist.

Resurgence of Intra-Hill Conflict

- **Spread of Inter-Tribal Violence:** Localized disputes expanding across the hills since February resulted in the deaths of **15 Kuki-Zo persons, 11 Nagas, three security personnel, and a truck driver** by July, with casualties continuing to rise.

- **Role of Armed Militias:** Non-state armed groups claiming community mandates have actively revived hostilities, leading to the burning of villages and fresh displacement.
- **Echoes of the 1990s:** The clashes revive historic contestations regarding **territorial control of the hills** and the primacy of competing **customary laws**.

Humanitarian Distress and Blockades

- **Protracted Displacement:** Thousands of internally displaced persons are entering their fourth year in relief camps.
- **Relief Camp Mortality:** A reply under the **Right to Information Act, 2005** confirmed over **700 deaths** inside relief camps, caused primarily by acute deficits in basic healthcare and essential nutrition.
- **Weaponization of Supply Lifelines:** Partisan economic blockades along **National Highway 2 (NH-2)** and **National Highway 37 (NH-37)** have stranded essential drugs and rations, leaving hill medical centers dysfunctional and impacting the smaller Kuki-Zo population heavily.

Significance of Establishing Peace and Stability in Manipur

- **Restoration of Legislative Primacy:** Validates the authority of constitutional forums over uncompromising **civil society boycotts**.
- **Multi-Front Security Overstretch:** A triangular conflict dynamic (Meitei, Kuki-Zo, and Naga) severely strains central and state **peacekeeping resources**.
- **Strategic Border Vulnerability:** Instability in a frontier state impairs cross-border connectivity and exposes critical administrative fault lines.
- **Humanitarian Benchmark:** Emphasizes that peace-building cannot succeed through security operations alone without basic **human security**.
- **Efficacy of Special Provisions:** Highlights the necessity of activating mechanisms under **Article 371C** to resolve hill governance impasses.

Major Challenges Confronting the Restoration of Peace in Manipur

- **Unregulated Non-State Armed Groups:** Armed groups operating outside formal oversight undermine settlements, accentuated by disputes surrounding the **Suspension of Operations (SoO)** framework.
- **Weaponized Economic Blockades:** Recurrent disruptions on **NH-2 and NH-37** serve as coercive leverage, causing severe localized inflation and medical shortages.
- **Institutionalization of Relief Camps:** Prolonged camp stays create persistent public health and nutritional failures that standard welfare grants fail to mitigate.
- **Unsettled Land and Customary Jurisdictions:** Friction persists between statutory bodies under the **Manipur (Hill Areas) District Councils Act, 1971** and hereditary village chiefs exercising customary authority.
- **Narrow Electoral Timelines:** The upcoming Assembly elections risk incentivizing polarizing campaign rhetoric among competing ethnic constituencies.

Way Forward

- **Verifiable Militia Containment:** Condition security restraint on strict, verified encampment and total **weapons accounting** for all armed groups.
- **Securing Arterial Highways:** Designate **NH-2 and NH-37** as protected transit corridors, enforcing dedicated armed convoys and treating blockades as criminal offenses.

- **Dated Resettlement Roadmap:** Replace open-ended relief camp maintenance with a time-bound, secure **rehabilitation plan** for villages of return.
- **Harmonizing Customary and Statutory Laws:** Convene a statutory boundary and rights settlement process led by the **Hill Areas Committee (HAC)**.
- **Institutionalized Multi-Track Dialogue:** Establish a formal tripartite consultative platform involving Meitei, Naga, and Kuki-Zo stakeholders to defuse communal rhetoric.
- **All-Party Electoral Code:** Formulate binding ground rules among political parties to prohibit communal mobilization ahead of the Assembly elections.

Conclusion

Sustainable peace in Manipur requires the state to manage both the hill-valley divide and intra-hill contestations simultaneously. Lasting stability hinges on strict legal even-handedness, uniform enforcement of criminal law, and equitable protection of all citizens irrespective of ethnic identity.

7.7. MATERNAL & CHILD HEALTH / NEONATAL CARE

Context:

- Three newborns died in a fire at a government hospital in Amravati, highlighting a recurring concern in public neonatal units—**overcrowding, infrastructure failures and inadequate safety preparedness**. The incident raises a larger question: how can India ensure that newborns receive **safe, timely and appropriate care without overburdening specialised hospitals**.



Introduction

India has made significant progress in maternal and child health, particularly through institutional deliveries and expansion of neonatal-care facilities. Yet, neonatal mortality remains a critical public-health concern, with the **Neonatal Mortality Rate (NMR) around 17 per 1,000 live births**.

The next phase of India's newborn-health strategy therefore requires a shift from simply expanding institutional capacity to ensuring **"the right care, at the right place, at the right time."**

Why Are Newborn Deaths Clustering in Government Neonatal Units?

1. Overcrowding of Neonatal Units

The expansion of institutional deliveries and referrals has increased the demand for Special Newborn Care Units (SNCUs). Overcrowding places pressure on beds, nurses and equipment, reducing individual attention and increasing the risk of infections.

2. Increasingly Complex Case Mix

Government hospitals often serve as referral centres for **premature, low-birth-weight and critically ill newborns**. Thus, the challenge is not merely rising admissions but a growing concentration of high-risk cases requiring specialised care.

3. Infrastructure and Safety Vulnerabilities

Neonatal units depend on uninterrupted **oxygen, electricity, ventilation and functioning medical equipment**. Poor maintenance, electrical faults, inadequate fire preparedness and oxygen-related risks can turn infrastructure deficiencies into life-threatening emergencies.

4. Human-Resource and Infection-Control Gaps

Shortages of pediatricians and trained neonatal nurses can result in inadequate nurse-to-baby ratios and insufficient monitoring. In overcrowded settings, weak infection-control practices further increase the vulnerability of newborns.

India's Broader Newborn-Health Context

India has made substantial progress in reducing mortality:

- **NMR** (Neonatal Mortality Rate): around 17 per 1,000 live births
- **IMR** (Infant Mortality Rate): around 25 per 1,000 live births
- **U5MR** (Under-5 Mortality Rate): around 28 per 1,000 live births
- **MMR** (Maternal Mortality Ratio): around 80 per lakh live births

However, the persistence of neonatal mortality shows that **survival alone is not enough; the quality, safety and continuity of newborn care also matter.**

The Gadchiroli Model: Evidence for Home-Based Newborn Care

- **Proven Community-Based Impact:** The Gadchiroli model showed that **trained community health workers can deliver effective newborn care at home**, contributing to a **62.2% reduction in neonatal mortality** through breastfeeding support, thermal care and early identification of danger signs.
- **HBNC as a Complement, Not Substitute:** Home-based care is appropriate for **stable and appropriately selected newborns**, while severe prematurity, respiratory distress, sepsis, shock or birth asphyxia require **immediate hospital-based care**.
- **Strengthen India's Existing System:** India already has **Home-Based Newborn Care (HBNC) through ASHAs**. The priority is to strengthen the system through **better training, supervision, institutional support and robust referral linkages**, rather than creating a parallel system.

Challenges in Building a Hospital + Home Model

1. **Shortage of Specialists:** Referral-level facilities, particularly in underserved areas, often lack adequate paediatricians and neonatal specialists, affecting timely diagnosis and specialised care.
2. **Shortage of Trained Nurses:** Inadequate nursing personnel create poor nurse-to-baby ratios, increase workload and limit continuous monitoring of vulnerable newborns.
3. **Inadequate Public-Health Financing:** Neonatal care requires sustained investment in **specialised equipment, infrastructure, staffing, maintenance and safety systems**. Limited resources can delay capacity expansion and essential upgrades.
4. **Weak Community-Level Capacity:** ASHAs require regular training, refresher programmes, supervision and institutional support to effectively undertake newborn-care responsibilities. Expanding responsibilities without adequate support can reduce effectiveness.
5. **Weak Referral and Urban Coverage:** Home-based care cannot function effectively without **timely emergency transport and accessible referral facilities**. At the same time, HBNC needs greater adaptation for urban poor, slum and migrant populations.

Way Forward: Building an Integrated "Hospital + Home" Model

1. **Strengthen Home-Based Newborn Care (HBNC)**
 - **Improve community-level care:** Strengthen HBNC through better ASHA training, refresher programmes, standard clinical protocols and regular postnatal visits to ensure quality newborn care at home.

- **Reduce unnecessary hospitalisation:** Stable and low-risk newborns can be managed closer to home, allowing specialised hospitals to focus on critically ill babies.

2. Strengthen Hospital-Based Neonatal Care

- **Create safe and functional neonatal units:** The focus should shift from merely increasing beds to ensuring adequate specialists, trained nurses, equipment, oxygen and electricity.
- **Improve quality of care:** Better nurse-to-baby ratios, infection control and uninterrupted services can improve survival outcomes and reduce hospital-acquired infections.

3. Make Neonatal Units Intrinsically Safe

- **Institutionalise safety standards:** Mandatory fire, electrical and oxygen safety norms should be implemented in all SNCUs and NICUs.
- **Promote preventive safety culture:** Regular maintenance, safety audits, emergency drills and equipment checks can prevent avoidable disasters.

4. Build an Integrated Referral and Reverse-Referral System

- **Ensure timely access to specialised care:** A seamless chain—ASHA → Ambulance → Health Facility → SNCU/NICU—can reduce delays in emergency treatment.
- **Reduce burden on tertiary hospitals:** Stabilised babies can be shifted back to lower facilities or supervised home care through an effective reverse-referral system.

5. Strengthen Human Resources and Supervision

- **Expand skilled workforce:** Increase the availability of paediatricians, neonatal nurses and trained frontline workers, especially in underserved areas.
- **Provide supportive supervision:** Cluster-level mentoring, observed visits and skill assessment can improve ASHA performance and service quality.

6. Establish a National Newborn Safety and Financing Framework

- **Create measurable standards:** National norms for staffing, infection control, equipment maintenance and safety systems should guide neonatal care.
- **Ensure adequate financing:** Dedicated funds are needed for infrastructure, workforce development and regular safety upgrades.

7. Use Data for Need-Based Capacity Planning

- **Promote evidence-based decision-making:** District-level data on occupancy, mortality, infections and staffing should guide resource allocation.
- **Focus on outcomes, not admissions:** Success should mean fewer unnecessary hospitalisations while ensuring timely care for critical newborns and continued reductions in neonatal mortality.

Conclusion

The next frontier of India's newborn-health strategy is not to place every baby in a hospital bed, but to ensure that every newborn receives the right level of care, at the right place, at the right time.
