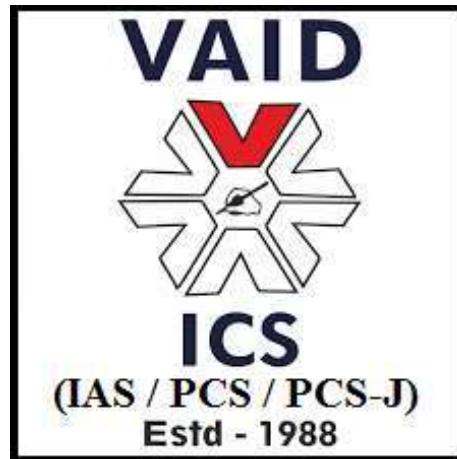


# VAID ICS LUCKNOW



## CURRENT AFFAIRS MAGAZINE

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## Carbon Credits and Offsets

**Why in News?** Driven by the global fight against climate change, companies worldwide are investing heavily in conservation efforts. A major focus has been the Amazon rainforest in Brazil, where funds support projects aimed at reducing deforestation. These investments are tied to carbon credits, allowing firms to offset their emissions by protecting vital ecosystems.

**Relevance :** UPSC Pre & Mains

**Prelims :** Carbon credits and offsets

**Mains :** GS 3

**About Carbon Credits and Offsets:**

Carbon credits and offsets are mechanisms used to reduce greenhouse gas emissions and combat climate change. They allow individuals, companies, or governments to compensate for their carbon emissions by funding equivalent reductions elsewhere.

**What Are Carbon Credits?**

A carbon credit represents one metric ton of carbon dioxide (CO<sub>2</sub>) or its equivalent in other greenhouse gases (GHGs) that is either reduced, avoided, or removed from the atmosphere. Credits are generated through projects that:

- **Reduce emissions** (e.g., renewable energy projects).
- **Avoid emissions** (e.g., protecting forests from deforestation).
- **Remove carbon** (e.g., reforestation or carbon capture technologies).

Each credit can be traded in carbon markets, enabling entities to meet regulatory requirements or voluntary sustainability goals.

**What Are Carbon Offsets?**

- Carbon offsets are a subset of carbon credits used to compensate for emissions by funding an equivalent reduction elsewhere.
- For example, a company emitting **1,000 tons of CO<sub>2</sub>** might purchase **1,000 carbon** credits from a wind farm to "offset" its emissions. Offsets are often used voluntarily by organizations or individuals aiming for carbon neutrality.

**How Carbon Credits and Offsets Work:**

**Project Development:** Projects like afforestation, methane capture, or renewable energy are developed to reduce or sequester GHGs.

**Verification:** Independent bodies verify and certify the emissions reductions, ensuring credibility.

**Credit Issuance:** Certified reductions are issued as carbon credits, which can be sold on carbon markets.

**Purchase and Use:** Entities buy credits to meet compliance requirements (e.g., under cap-and-trade systems) or to offset emissions voluntarily.

**Retirement:** Once used, credits are retired to prevent double-counting.

**Types of Carbon Markets:**

- **Compliance Markets:** Regulated markets where entities buy credits to meet legal emissions targets (e.g., EU Emissions Trading System).
- **Voluntary Markets:** Non-regulated markets where businesses or individuals purchase offsets to achieve sustainability goals.

**Benefits of Carbon Credits and Offsets:**

- **Environmental Impact:** Funds climate-friendly projects, reducing global GHG emissions.
- **Economic Incentives:** Encourages investment in green technologies and sustainable practices.
- **Flexibility:** Allows entities to meet emissions targets cost-effectively.
- **Global Reach:** Supports projects in developing countries, promoting global equity.

**Challenges and Criticisms:**

- **Additionality:** Ensuring projects genuinely reduce emissions beyond what would have occurred without funding.
- **Permanence:** Ensuring reductions (e.g., from forests) are not reversed by events like wildfires.
- **Verification and Transparency:** Concerns about fraudulent or low-quality credits.
- **Greenwashing:** Some entities may use offsets to avoid direct emissions reductions.

**Examples of Carbon Offset Projects:**

- **Renewable Energy:** Wind, solar, or hydroelectric projects replacing fossil fuels.
- **Forestry:** Reforestation, afforestation, or preventing deforestation.
- **Methane Capture:** Capturing methane from landfills or agricultural operations.
- **Energy Efficiency:** Upgrading infrastructure to reduce energy consumption.

## Special Intensive Revision (SIR)

**Why in News?** The **Supreme Court** has recently agreed to urgently hear, a batch of petitions challenging the **legality of the Special Intensive Revision (SIR)** of electoral rolls being conducted by the **Election Commission of India** in **poll-bound Bihar**.

**Relevance :** UPSC Pre & Mains

**Prelims :** SIR/SSR

**Mains :** GS2

The court also referred to the landmark **M.S. Gill v. Chief Election Commissioner (1977)** case, highlighting that the Election Commission (EC) is not a law unto itself and must operate within the bounds of fairness and legality.

### Key Points:

**Legal Challenge:** Opposition parties and petitioners argue that the SIR could disenfranchise **crores of marginalized voters** in Bihar and violate the **principles of universal adult franchise**.

### Supreme Court Observation:

- Justice **Sudhanshu Dhulia**, referencing the **M.S. Gill (1977)** judgment, emphasized that a **free and fair election** is part of the **basic structure** of the Constitution.
- The EC's powers under **Article 324** must be exercised **legally and fairly**, not arbitrarily.
- **M.S. Gill Case (1977):**
  - The case involved the EC's decision to cancel the **13-Ferozepur Lok Sabha election** in 1977 due to mob violence.
  - The court upheld the EC's power to cancel and re-conduct elections under **Article 324**, but stressed that such power must **not result in constitutional despotism**.
  - Justice **V.R. Krishna Iyer** stated that the EC is subject to judicial scrutiny and cannot become a **law unto itself**.
- **Constitutional Insight:**
  - Article 324 provides EC with **superintendence, direction, and control** over elections.
  - However, these powers are **not unlimited** and must adhere to **norms of fairness and legality**.

### About SIR:

- The Special Intensive Revision (SIR) of Electoral Rolls is a process undertaken by electoral authorities, particularly in India, to update and maintain the accuracy of voter lists.
- It involves a comprehensive review and verification of electoral rolls to ensure they reflect current voter information, remove inaccuracies, and include eligible voters.

**Purpose:** The SIR aims to improve the integrity of electoral rolls by adding new voters, removing deceased or ineligible voters, correcting errors (e.g., names, addresses), and updating voter details due to changes like relocation.

### Process:

**House-to-House Verification:** Electoral officials, such as Booth Level Officers (BLOs), conduct field visits to verify voter details directly with residents.

**Data Updates:** New voters (e.g., those turning 18) are enrolled, and outdated entries (e.g., deceased or shifted voters) are removed.

**Public Participation:** Citizens are encouraged to verify their details and report discrepancies during the revision period.

#### **Special Summary Revision (SSR):**

The ECI conducts periodic Special Summary Revisions to comprehensively update electoral rolls, distinct from SIR, with a focus on publishing draft and final rolls.

#### **Key Actions:**

- Draft electoral rolls are published for public review, allowing citizens to file claims (for inclusion) or objections (for deletion).
- House-to-house verification by **Booth Level Officers (BLOs)** is conducted to authenticate voter details.
- Special camps are organized to facilitate voter registration and corrections, as seen in Delhi's 2023 SSR activities.

**Impact:** Enhances voter list accuracy by engaging communities and addressing errors systematically.

**Special Campaigns:** In some cases, special camps or online portals are set up to facilitate voter registration and updates.

**Frequency:** SIR is typically conducted periodically, often in response to specific needs (e.g., before major elections) or as directed by the **Election Commission of India (ECI)**. It differs from routine annual revisions by being more intensive and focused.

**Example:** Recent posts on X mention SIR activities in regions like West Bengal, where BLOs verify voter lists, and in Delhi, where special camps were held in 2023 for voter updates ahead of elections.

## **17th BRICS Summit 2025**

**Why in News ?** The 17th BRICS Summit, hosted in **Rio de Janeiro, Brazil**, on **July 7–8, 2025**, brought together leaders of Brazil, Russia, India, China, and South Africa to deliberate on pressing global challenges. Under the overarching theme of “**Building a Just Global Order**”, the summit emphasized **environmental sustainability**, **climate action in the run-up to COP 30**, and **enhancing global health architecture**—all of which reflect the growing commitment of emerging economies to shaping a resilient and equitable world.

**Relevance :** UPSC Pre & Mains



Prelims : BRICS&Related topics

Mains : GS 2/GS 3

#### Environment and Climate Action:

- **Shared Responsibility:** BRICS nations reaffirmed their commitment to the **Paris Agreement**, recognizing the urgent need to limit global warming to **below 1.5°C**.
- **Sustainable Development:** The summit stressed integrating **green technologies**, **circular economy**, and **sustainable agriculture** to reduce ecological footprints.
- **Just Transition:** Emphasis was laid on ensuring a **just and equitable energy transition**, particularly for developing nations, with **climate finance and technology transfer** as key enablers.
- **Amazon Rainforest & Brazil's Leadership:** As host, Brazil spotlighted the **Amazon's ecological significance**, drawing attention to its conservation ahead of **COP 30**, which it will also host in **Belém, 2025**.

#### COP 30 and Global Climate Governance:

- **Rio to Belém Continuity:** The summit served as a prelude to **COP 30**, expected to be a historic climate summit, reinforcing **Global South priorities** on mitigation, adaptation, and **climate justice**.
- **BRICS Climate Cooperation Mechanism:** A new working group was proposed to enhance intra-BRICS cooperation on **climate data sharing**, **carbon markets**, and **green financing**.
- **Equity and Common but Differentiated Responsibilities (CBDR):** BRICS pushed for respecting the principle of CBDR in all international climate negotiations, opposing shifting more burden onto developing nations.

#### Global Health and Pandemic Preparedness:

- **Post-COVID Global Health Framework:** The summit highlighted the need for a **robust global health governance system**, learning from the COVID-19 experience.
- **BRICS Vaccine Network Expansion:** Discussions were held to strengthen **vaccine research and production capacity**, especially in the Global South, through a **BRICS Vaccine R&D Centre**.
- **One Health Approach:** Recognizing the interconnection between **human, animal, and environmental health**, the leaders endorsed a '**One Health**' framework to address future pandemics and zoonotic diseases.
- **Access to Medicines:** BRICS nations called for **affordable access to essential medicines** and opposed **vaccine nationalism** and restrictive IPR regimes.

## NIPGR's CRISPR Rice:

**Why in News?** Scientists at the National Institute of Plant Genome Research (NIPGR) successfully used CRISPR-Cas9 gene editing technology to develop rice that can absorb and utilize phosphate more efficiently.

**Relevance :** UPSC Pre & Mains

**Prelims :** Indian Polity and Governance and Social Issues

**Mains :** GS Paper III: Science and Technology / Economic Development (Agriculture)

NIPGR scientists used **CRISPR-Cas9 gene-editing technology** to precisely modify a **key gene** in rice: **OsPHO1;2**. This gene is vital for transporting inorganic phosphate from roots to shoots.

- **Targeted Modification:** The team identified **OsWRKY6**, a repressor protein that naturally limits OsPHO1;2 expression. Their innovative approach involved **excising a 30 base-pair binding site** of this repressor from the OsPHO1;2 promoter using CRISPR.
- **Enhanced Phosphate Transport:** Removing the repressor's binding site significantly boosted OsPHO1;2 expression, leading to:
  - Greater efficiency in absorbing phosphate from the soil.
  - Enhanced translocation of phosphate from roots to shoots.
  - Higher accumulation of phosphate in the plant's shoot tissue.

### Key Agronomic Benefits

The gene-edited rice demonstrated impressive performance in both yield and resource efficiency:

- **Significant Yield Increase:**
  - With **recommended phosphate fertilizer**, the gene-edited lines showed a **20% increase in grain yield**.
  - Even more remarkably, with just **10% of the recommended phosphate fertilizer**, these lines still achieved a **40% higher yield** compared to control plants. This highlights their exceptional **phosphate-use efficiency**.
- **Improved Plant Architecture:** Enhanced phosphate uptake led to a higher number of **panicles** and more seeds per panicle, directly contributing to the increased yield.
- **Unaffected Seed Quality:** Crucially, seed quality—including **seed size, shape, starch content, protein content, and resistant starch levels**—remained unchanged, ensuring no compromise on nutritional value.
- **Improved Stress Tolerance:** The enhanced nutrient uptake also conferred improved **stress tolerance**, including potential benefits for drought tolerance and resistance to diseases like rice blast.



## Methodology and Regulatory Compliance

The NIPGR team emphasized the precision of their method and its regulatory implications:

- **Precision Editing:** The CRISPR-based editing **did not involve the insertion of any foreign DNA**. This is a crucial distinction from traditional Genetically Modified Organisms (GMOs).
- **Non-GMO Compliance:** In India, gene-edited crops modified without introducing foreign DNA (SDN-1 and SDN-2 approaches) are generally **exempt from stringent biosafety regulations** applied to GMOs.
- **Rigorous Testing:** The edited plants underwent rigorous testing for **off-target effects**, ensuring no unintended modifications.
- **Greenhouse Studies:** Initial studies and validation were conducted in a controlled greenhouse environment, a standard step before multi-location field trials.

## Significance for Sustainable Agriculture

This breakthrough has profound implications:

- **Reduced Fertilizer Dependence:** India, a major importer of **diammonium phosphate (DAP)** fertilizer, can significantly reduce its reliance on imports by adopting such phosphate-efficient rice varieties.
- **Environmental Protection:** By optimizing phosphate utilization, the gene-edited rice minimizes **environmental pollution** from fertilizer runoff and leaching, which contributes to water body eutrophication.
- **Addressing Phosphorus Deficiency:** Many Indian soils are phosphorus-deficient. This innovation is particularly relevant for cultivating rice in such challenging conditions.
- **Food Security:** Developing high-yielding, resource-efficient crops like this gene-edited rice is critical for **ensuring food security** amidst a growing global population.

## Future Potential:

- While current research focused on *japonica* rice, the findings hold immense potential for replication in indica rice lines, predominantly cultivated in India.

**CRISPR-Cas9** is a revolutionary gene-editing technology that allows precise modifications to DNA, transforming biotechnology, medicine, and agriculture.

- Derived from a bacterial defense mechanism, it **uses a guide RNA to direct the Cas9 enzyme to specific DNA sequences**, where it acts as molecular scissors to cut, edit, or replace genetic material. Its precision, efficiency, and affordability have made it a **game-changer compared to earlier methods like ZFNs or TALENs**.
- Applications include **treating genetic disorders (e.g., sickle cell anemia)**, developing disease-resistant crops, and advancing cancer therapies.
- However, ethical concerns arise, particularly regarding human embryo editing and potential off-target effects, which could lead to unintended mutations. **Regulatory frameworks vary globally**, with some countries banning germline editing.
- Ongoing research aims to improve accuracy and safety, while debates continue over its societal implications, including equitable access and ecological impacts of genetically modified organisms.

## Rare Great Hornbill sighting in Ezhimala

**Why in News?** The rare Great Hornbill sighting in Ezhimala has sparked renewed calls for biodiversity conservation primarily because of its unusual nature and the ecological implications.

**Relevance :** UPSC Pre & Mains

**Prelims :** Conservation Status / Geographical Location / Ecological Terms

**Mains :** GS Paper III : Environment and Ecology

A rare sighting of the **Great Hornbill** (*Buceros bicornis*), also known as the **great Indian hornbill** or **Kerala's State bird**, near Ezhimala, Kannur, has reignited **conservation hopes**. This event, far from its usual forest habitats, underscores the critical need for **biodiversity conservation** in coastal ecosystems and local forested hill zones.

**Unusual Sighting Near Ezhimala:**

A male **Great Hornbill** (**Malamuzhakki Vezhambal**) was spotted in Kakkampara, near Ezhimala, Kannur:

- **Location:** This coastal belt is unusual for the species, which is typically found in **deep forests** like Silent Valley, Athirappilly, and Aralam, all part of the **Western Ghats**, a renowned **biodiversity hotspot**.
- **Duration and Behavior:** The bird was observed for approximately two weeks, **feeding on fruiting trees**, including fig trees, and moving in nearby areas. This behavior is

typical of hornbills, known as **frugivorous birds** playing a crucial role in **seed dispersal** in tropical Asia. Researchers are keen to study seasonal movement patterns.

#### **Ecological and Conservation Significance:**

Experts view this unexpected appearance in a non-typical habitat as a **positive ecological indicator**, signifying the area's rich biodiversity despite human presence:

- **Biodiversity Hotspot:** Local official V. Shyma termed it evidence of a **biodiversity hotspot**, emphasizing the need for comprehensive **conservation strategies** across diverse forest types, including **primary and secondary forests**, **national parks**, and **reserved forests**.
- **Research Imperative:** Sneha Subhash, head of Forestry at Sir Syed College, stressed the necessity of research on the species' movement to coastal hills. This highlights the importance of studying **hornbill distribution**, **seasonal movements**, and **home range** for accurate species distribution mapping.
- **Fringe Habitat Importance:** The sighting underscores the ecological importance of **fringe habitats** and their potential as **wildlife sanctuaries**. Long-term monitoring of hornbill populations through methods like **field surveys** and **density estimation** is crucial.

#### **Protected and Endangered Species:**

The Great Hornbill's status highlights the urgency of conservation efforts:

- **Conservation Status:** It is listed as **Endangered by the IUCN** and protected under **Schedule I of India's Wildlife Protection Act**, similar to other threatened hornbills like the **helmeted hornbill**.
- **Renewed Focus:** The incident has sparked renewed focus on **wildlife conservation** and the protection of **coastal biodiversity corridors** in Kerala. It also emphasizes the need for **conservation education** and involvement of **indigenous peoples** and **forest farmers**.
- **Habitat Protection:** Conservationists stress the importance of preserving hornbill **nesting sites** and **feeding grounds**. Initiatives like providing **artificial nests** are promising.
- **Behavioral Studies:** Researchers are studying **hornbill behavior**, including courtship displays and breeding biology, to develop effective protection strategies. **Regular population assessment** is essential for tracking abundance.

#### **Broader Implications for Hornbill Conservation:**

As **keystone species**, hornbills play a vital role in maintaining **forest health**. Their presence in unexpected areas like Ezhimala points to potential for **ecotourism** and **birdwatching**, aiding local conservation efforts.

The sighting also brings attention to other hornbill species in the region, such as the **Indian grey hornbill** and **Malabar pied hornbill**, each facing unique challenges. To ensure long-term survival, conservationists are focusing on:

- **Protecting hornbill nest cavities** in mature trees.
- **Studying hornbill density** and abundance in different forest types.
- **Monitoring hornbill encounter rates** during surveys.
- **Assessing fruit availability** and its impact on feeding patterns.
- **Evaluating habitat quality** in forest fragments and protected areas.

### Great Hornbill: A Flagship Species and Conservation Imperative

The recent sighting of the **Great Hornbill** (*Buceros bicornis*) near Ezhimala, Kannur, highlights its critical importance as a **flagship species** for conservation. This majestic bird is listed as **Endangered by the IUCN** and afforded the highest protection under **Schedule I of India's Wildlife Protection Act, 1972**. Its unexpected appearance in a coastal fringe habitat, far from its typical deep forest dwelling in the **Western Ghats (a biodiversity hotspot)**, underscores the interconnectedness of diverse ecosystems and the value of even human-modified landscapes for wildlife.

Hornbills are **keystone species**, primarily **frugivores**, playing an indispensable role in **seed dispersal** and maintaining **forest health**. Their presence indicates a vibrant ecosystem. The sighting serves as a stark reminder of the urgent need for comprehensive **biodiversity conservation strategies** that encompass not just pristine forests but also **fringe habitats** and **coastal corridors**.

## Cat Bond /Catastrophe Bond

**Why in News?** As climate change intensifies, the frequency and unpredictability of natural disasters—such as cyclones, floods, wildfires, and earthquakes—have increased significantly. This has strained traditional insurance systems. In this context, **Catastrophe Bonds (Cat Bonds)** offer an innovative financial instrument for transferring risk from governments to capital markets. Given India's exposure to disaster risk and its growing financial maturity, the question arises—**does India need a Cat Bond?**

**Relevance :** UPSC Pre & Mains

**Prelims :** Cat Bond

**Mains :** GS 3

### **What is a Catastrophe Bond (Cat Bond)?**

A **Cat Bond** is a high-yield debt instrument designed to raise money for insurance companies or governments in the event of a natural disaster. If a predefined disaster occurs (e.g., an earthquake above a certain magnitude or a cyclone of a certain wind speed), the bondholders forfeit their principal, which is used for emergency relief and reconstruction. If no disaster occurs, investors receive regular interest payments and principal at maturity.

### **Why India Needs a Cat Bond?**

#### **High Disaster Exposure:**

India ranks among the most disaster-prone countries globally. Over 75% of India's districts are classified as disaster hotspots, frequently affected by:

- Cyclones (Bay of Bengal and Arabian Sea)
- Earthquakes (Himalayan belt)
- Floods (e.g., Assam, Bihar, Kerala)
- Droughts (e.g., Maharashtra, Telangana)

#### **Climate Change Intensifies Risk:**

Extreme weather events are increasing in frequency and severity due to climate change. This is making disaster insurance increasingly unprofitable for private insurers, leading to:

- Higher premiums
- Lower demand
- Risk shifting back to vulnerable populations and government budgets

#### **Pressure on Public Finances:**

Post-disaster reconstruction costs can severely impact fiscal stability. A cat bond can **ring-fence public finances**, ensuring predictable funding without over-reliance on ex-post relief.

#### **India's Financial Capacity and Sovereign Credit:**

India's relatively stable financial standing and good sovereign credit rating enable it to:

- Sponsor cat bonds cost-effectively
- Use multilateral intermediaries like the **World Bank**, which can offer lower bond yields due to trust and global investor confidence

#### **Existing Commitment to Risk Reduction:**

- India already spends over **\$1.8 billion per year (since FY21-22)** on disaster mitigation and capacity-building. This improves its eligibility for lower coupon rates in cat bond agreements.

#### **Regional Opportunity: South Asian Cat Bond:**

##### **Shared Vulnerability:**

South Asian nations share similar hazard profiles:



- Earthquakes (Himalayan region: **Nepal, Bhutan, Northern India**)
- **Cyclones** and tsunamis (India, Bangladesh, Myanmar, Maldives, Sri Lanka)

#### **Risk Pooling Benefits:**

A **regional cat bond** would:

- Spread risk across multiple countries
- Lower insurance premium costs
- Build **regional resilience** and strengthen cooperation through a shared financial safety net

#### **Challenges and Disadvantages:**

##### **Trigger Design Risks:**

Poorly designed bonds may not payout despite extensive damage. For example:

- A bond triggered only by earthquakes  $\geq 6.6$  magnitude may not pay if a **6.5 magnitude** earthquake causes massive loss.
- This creates a mismatch between actual losses and financial relief.

##### **Perceived Wastage in No-Disaster Years:**

- If no disaster occurs, premium payments might appear wasteful, especially to budget-conscious policymakers and taxpayers.

##### **Complexity and Transparency:**

- Structuring, pricing, and managing a cat bond involves complex legal and financial arrangements.
- Transparent procurement and cost-benefit analysis are essential to maintain public trust.

#### **Way Forward:**

##### **Comprehensive Risk Assessment:**

- Study India's hazard profiles, historical data, and financial loss records to design appropriate bond triggers.

##### **Transparent Cost Comparison:**

- Compare **annual cat bond premiums** with historical **average disaster relief costs** to evaluate cost-effectiveness.

##### **Regional Collaboration:**

- Engage SAARC or BIMSTEC nations to explore a **South Asian Cat Bond Facility** with support from multilateral institutions.

##### **Public Awareness and Parliamentary Oversight:**

- Ensure democratic legitimacy through parliamentary debates and independent audits of cat bond spending.



### Conclusion:

In an era of increasing disaster risk due to climate change, India must evolve from reactive relief to **proactive risk financing**. A well-structured **catastrophe bond**, either national or regional, can provide **predictable, timely, and scalable funding** for disaster response. With India's growing financial muscle and commitment to disaster resilience, adopting such a tool would be both timely and strategic.

## National Achievement Survey (NAS) 2025

**Why in News?** The National Achievement Survey (NAS) 2025 results, released on July 2, 2025, revealed a surprising and encouraging development — **Himachal Pradesh**, which ranked 21st in 2021, **jumped 16 positions** to enter the **top five performing States**. While Punjab and Kerala retained their top positions, **Himachal's turnaround drew national attention**.

**Relevance :** UPSC Pre & Mains

Prelims : NAS

Mains : GS 1&2

**What is the National Achievement Survey (NAS)?**

The NAS is a **nationwide learning assessment** conducted every **three years** by the **Ministry of Education**. It aims to measure the learning outcomes of students in **government and government-aided schools**, specifically in:

- **Classes:** 3, 5, 8, and 10
- **Subjects tested:** Language, Mathematics, Science, and other core subjects

**Objectives of NAS:**

- Provides **data-driven insights** for policymaking
- Acts as a **diagnostic tool** to identify learning gaps
- Assists states in **improving education delivery systems**

**Limitations of NAS:**

While useful, the NAS focuses on what is **easily testable**, such as rote learning and textbook-based knowledge. It does **not adequately capture**:

- **Critical thinking**
- **Emotional and social development**
- **Civic awareness**
- **Equity and inclusion in education**

Thus, while Himachal's improved NAS performance is significant, it **should not be the sole benchmark** of educational quality.

### Why is Himachal's Rise in NAS Significant?

Himachal Pradesh's upward movement signals a **recovery from a period of educational decline**. Once considered a **model hill-state** for public education, the state had witnessed deterioration due to various systemic issues.

#### Historical Context:

- Under **Y.S. Parmar**, the state's first Chief Minister, there was a massive **post-Independence expansion of government schools**.
- The guiding principle was "**serve the village, teach the young**."

#### Challenges Post-Liberalisation:

- **Contractual hiring** of teachers weakened professional accountability
- **Inadequate recruitment** and poor training standards
- Rapid **mushrooming of private schools**, even in remote villages
- **Loss of public trust** in government schools

## Maharashtra Special Public Security Bill/Urban Nexalism

**Why in News?** The Maharashtra Legislative Assembly has passed the Maharashtra Special Public Security Bill by a voice vote.

The bill is aimed at **curbing unlawful activities** of Left-Wing Extremist organisations, particularly focusing on "**urban Naxalism**".

**Relevance :** UPSC Pre & Mains

**Prelims :** Left-Wing Extremism (LWE)

**Mains :** GS 2/ GS 3 ( Internal Security)

#### Key Provisions of Bill:

##### Focus on Urban Naxalism:

- The bill is designed to counter **Left-Wing Extremism (LWE)** in **urban areas**, often labelled as "**urban Naxals**".
- It seeks to **criminalise support or affiliation** with outlawed extremist groups working against the **democratic and constitutional order**.

##### Definition of Unlawful Activities:

- The bill includes **expansive definitions** of what constitutes **unlawful activity**, especially **propaganda, recruitment, financial support, and aiding** extremist movements.

##### Establishment of an Advisory Board:

- An **Advisory Board** will be formed to **review detentions and cases** under the Act.
- The **Chairperson** will be either the **Chief Justice of the High Court** or a **retired Chief Justice**.

- Other members include:
  - **District Magistrates**
  - **Government Pleaders** from the High Court

#### **High-Rank Investigation Officers:**

- Only police officers of **Superintendent of Police (SP)** rank and above can **investigate** cases under the law.
- This is aimed at **preventing misuse** by lower-level police officials.

#### **Provision for Review of Detentions:**

- Arrests under this Act will be **reviewed by the Advisory Board** within a specified period, ensuring **judicial oversight**.

#### **Comparative Safeguards:**

- The bill is claimed to be **more balanced** and **progressive** than similar laws in other LWE-affected states.
- Focus is on **transparency, accountability, and public participation** (e.g., inclusion of 12,500 public suggestions).

#### **Concerns & Criticism:**

- **Opposition Parties** argue that the **definition of “urban Naxals”** is too vague, leading to a **potential crackdown on dissent**.
- **Civil liberties groups** fear the law may be **used to suppress activists, students, and journalists** under the guise of national security.

#### **What is Urban Naxals?**

The term “Urban Naxals” is a **controversial political label** used to refer to **intellectuals, activists, professors, lawyers, journalists, and civil society members** who are allegedly involved in **supporting or propagating Maoist or Naxalite ideology** while living in urban areas.

- Unlike traditional Naxalites who operate in remote, forested areas using guerrilla warfare, **Urban Naxals are said to operate ideologically**—influencing public opinion, youth, media, and academic spaces.
- The term gained popularity in **mainstream discourse** around **2017–2018**, often used by right-wing commentators.

#### **Origin of the Term:**

- Coined and popularized by **Vivek Agnihotri**, a filmmaker and author, in his 2018 article and subsequent book titled *“Urban Naxals: The Making of Buddha in a Traffic Jam”*.

- The term was used to describe those who, according to Agnihotri, are **Maoist sympathisers operating in cities under the guise of human rights activists and intellectuals.**

#### **Examples of Individuals Referred to as 'Urban Naxals':**

**Note:** The use of the term is highly debated and not legally defined. The following individuals were *accused or arrested under laws such as the UAPA* (Unlawful Activities Prevention Act) and have been labelled "Urban Naxals" in public/political discourse—**not all are convicted.**

#### **Bhima Koregaon Case (2018 Arrests):**

A group of lawyers, poets, and activists were arrested for allegedly inciting violence and having Maoist links:

- **Sudha Bharadwaj** – Activist and lawyer
- **Varavara Rao** – Revolutionary poet
- **Gautam Navlakha** – Journalist and human rights activist
- **Vernon Gonsalves** – Former professor
- **Anand Teltumbde** – Scholar and Dalit rights activist
- **Rona Wilson** – Researcher, accused of being a Maoist ideologue

## **27th Eastern Zonal Council meeting-2025**

**Why in News?** Union Home Minister **Amit Shah** addressed the **27th Eastern Zonal Council meeting** held in **Ranchi on July 10, 2025**, highlighting the growing significance of zonal councils in resolving inter-state and Centre-state issues.

**Relevance :** UPSC Pre & Mains

**Prelims :** Zonal Council/EZC

**Mains :** GS2

**Key Points of Amit Shah's Address :**

#### **Transformation of Zonal Councils into Engines of Cooperation:**

- Shah emphasized that under the **Modi Government**, zonal councils have evolved from mere "forums of discussion" into "**engines of cooperation.**"
- **83% of issues** discussed (1,287 out of 1,580) in zonal council meetings from **2014 to 2025** have been resolved.

#### **Increase in Frequency and Productivity of Meetings:**

- From **2004 to 2014**: 25 meetings were held.
- From **2014 to 2025**: 63 meetings were held.

- Average meetings per year rose from 2–3 to 6.

#### Discussion on Long-Standing Issues:

- Resolutions and decisive steps were taken on long-pending issues like:
  - Masanjore Dam
  - Taiyabpur Barrage
  - Indrapuri Reservoir
  - Division of assets and liabilities of PSUs between Bihar and Jharkhand (pending since bifurcation).

#### Promotion of Cooperative Federalism:

- PM Modi's vision of "Team Bharat" based on **cooperative federalism** was highlighted.
- Focus on **state development as a pathway to national development** by 2047.

#### Implementation of New Criminal Laws:

- Urged Eastern states to expedite the implementation of:
  - New criminal laws.
  - District-level NCORD (Narcotics Control Bureau Coordination) meetings to tackle drug issues.

#### Fight against Naxalism:

- Declared aim to make India **Naxalism-free by March 31, 2026**.
- Noted that:
  - Bihar, Jharkhand, and Odisha are largely free from Naxalism.
  - West Bengal has already eliminated the issue.

#### About Zonal Councils :

- Not a Constitutional Body, but a statutory body.
- Created under the **States Reorganisation Act, 1956 – Section 15 to 22**.
- Objective: To promote **cooperative federalism**, coordination, and mutual cooperation among states and with the Centre.

#### Composition of Zonal Councils:

India is divided into 5 Zonal Councils:

North-Eastern states are not part of these councils — they have their own **North Eastern Council (NEC)** set up under a separate Act (NEC Act, 1971).



Zonal Council	Member States
Northern	Haryana, Himachal Pradesh, Jammu & Kashmir, Punjab, Rajasthan, NCT of Delhi, Chandigarh
Central	Chhattisgarh, Uttarakhand, Uttar Pradesh, Madhya Pradesh
Eastern	Bihar, Jharkhand, Odisha, West Bengal
Western	Goa, Gujarat, Maharashtra, Rajasthan, Dadra & Nagar Haveli and Daman & Diu

## MEMBERSHIP STRUCTURE (of each Zonal Council)

Role	Member
Chairperson	Union Home Minister (ex-officio)
Vice-Chairperson	Chief Minister of the host state (by rotation annually)
Members	Chief Ministers and two other Ministers from each member state
Advisory Members	Lt. Governors/Administrators of Union Territories in the zone
Special Invitees	Ministers from the Centre as needed

India introduced the **Khelo Bharat Niti 2025**, a comprehensive national sports policy aimed at making India a **global sporting powerhouse**. It aligns with the **Viksit Bharat 2047 vision**, following achievements like:

- **6 medals** at Paris Olympics 2024
- **107 medals** at Asian Games 2023

## Khelo Bharat Niti 2025 (KBN 2025)

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- **107 medals** at Asian Games 2023

**Relevance :** UPSC Pre & Mains

Prelims : **Khelo Bharat Niti 2025**

Mains : **GS 1 & 2**



## Background :

While schemes like **Khelo India** have built grassroots infrastructure, challenges like:

- Poor sports governance
- Age fraud & doping
- Low private sector investment still persist.

**KBN 2025** seeks to address these by modernizing the sports ecosystem and using sports as a **nation-building tool**.

## Key Objectives of KBN 2025

### Promoting Sports as a Mass Movement

- Encourage **broad participation** across demographics.
- Strengthen **Khelo India** (extended till 2025–26).

### Fostering Excellence in Global Competitions

- Provide **financial and training support** for Olympics, Asian Games, Paralympics.

### Tapping Economic Potential of Sports

- Promote **sports tourism, manufacturing, & hosting international events** to create jobs and attract investments.

### Strengthening Governance and Ethics

- Backed by **National Sports Governance Bill 2024** to reform NSFs, IOA, and NOC.
- Push for **transparency, athlete welfare**, and accountability.

### Combating Age Fraud and Doping

- Introduce **National Code Against Age Fraud in Sports (NCAAFS) 2025**.
- Strengthen anti-doping measures per global standards.

### Inclusivity and Accessibility:

- Promote sports for **marginalized groups, women, and persons with disabilities**.
- Expand rural and Tier-2/3 city infrastructure.

### Key Provisions and Initiatives:

- **Financial Support:** Enhanced grants to NSFs; elite athletes to receive tailored aid.
- **Infrastructure Development:** Continue Khelo India; promote **PPP models** for stadiums and training centers.
- **Talent Identification:** SAI to expand scouting at grassroots and provide long-term support.

- **Hosting Global Events:** Roadmap for **bidding major international events**, including 2036 Olympics.
- **Technology in Sports:** Focus on **data analytics, sports science**, and digital platforms.

#### Potential Impact:

- Make sports **integral to lifestyle and national identity**.
- Stimulate **job creation and economic growth** through sports-linked industries.
- Boost India's **international sports profile** and Olympic performance.
- Ensure **social empowerment** through inclusivity.

#### Challenges:

- Success depends on **implementation**, coordination among stakeholders, and enforcement of governance reforms.
- Past failures were due to **poor monitoring** and **mismanagement** in sports bodies.

#### Conclusion:

**KBN 2025** is a **bold, forward-looking policy** that aims to place sports at the heart of India's development journey. It has the potential to:

- Professionalize Indian sports
- Empower youth
- Build national pride

If effectively implemented, it can turn **India's sporting aspirations into global achievements**.

## Ice sheet receding

**Why in News?** The **grey seals** were released into the **Baltic Sea** off the Lithuanian coast after being rehabilitated. This was done in response to the challenges these animals face due to **climate change, shrinking fish stocks, pollution, and loss of ice cover**.

**Relevance :** UPSC Pre & Mains

**Prelims :** Ice sheet recession

**Mains :** GS3

#### Key Points:

- **Event:** Release of rehabilitated **grey seals** into the **Baltic Sea** from a center in Klaipeda, Lithuania.
- **Main Issue:** Melting ice sheets due to **global warming**—a significant **climate change impact**—is destroying traditional seal breeding habitats.
- **Ecological Impact:**

- The **Baltic Sea rarely freezes** now, affecting breeding grounds.
- Seals are **forced to breed on land**, increasing **disease risk**, **human conflict**, and **predation**.
- **Historical Context:**
  - Pre-WWII population: ~1,00,000 seals.
  - Post-1950s decline due to **hunting** and **competition with fishers**.
  - In the **1960s**, **toxic agricultural pesticides** led to infertility and weak immunity among seals.
- **Conservation Efforts:**
  - **Bans on harmful chemicals** helped recovery.
  - Current population estimate: ~**50,000 seals** in the Baltic.

### About Ice Sheet Receding :

Ice sheet recession refers to the **melting and shrinking of large ice masses**, especially in **polar and sub-polar regions**, due to **global temperature rise**. It threatens biodiversity and coastal stability.

**Examples:**

**Baltic Sea (Current Example):**

- Rarely freezes now.
- **Grey seals** cannot rear cubs safely on ice anymore.
- Leads to **population vulnerability**.

**Arctic Ice Sheet:**

- Satellite data shows **13% decline per decade** since 1979.
- Affects species like **polar bears**, **walruses**, and indigenous communities.

**Greenland Ice Sheet:**

- Losing **270 billion tons of ice/year** (NASA).
- Major contributor to **sea-level rise**.

**Antarctica:**

- Especially **West Antarctic Ice Sheet** is melting rapidly.
- Could raise global sea levels by several meters if fully melted.

## WasteLands/Green deserts

**Why in News?** The discussion around India's open ecosystems, particularly deserts, grasslands, savannas, and scrublands, has gained attention due to growing awareness of their ecological and cultural significance, as highlighted in the article by Abi Tamim Vanak and Anuja

Malhotra. These ecosystems, often misclassified as "**wastelands**," are critical for biodiversity, carbon storage, and the livelihoods of pastoral communities.

**Relevance :** UPSC Pre & Mains

**Prelims :** wastelands

**Mains:** GS 3 Biodiversity/Ecology

**Key Points from the Article**

### 1. Misconception of Deserts as Wastelands:

- Deserts are often wrongly perceived as barren or failed ecosystems, leading to terms like "desertification" to describe land degradation. This negative framing fuels misguided efforts to "**green**" **deserts** through afforestation or irrigation, ignoring their natural resilience and ecological value.
- Deserts are ancient, diverse biomes occupying nearly **one-third of Earth's terrestrial** surface, supporting unique species and human cultures. Historically, desert conditions fostered early civilizations like those in **Mesopotamia, Egypt, and the Indus Valley**, which developed sophisticated irrigation systems to thrive.

### 2. Importance of Open Ecosystems in India

- **India's open ecosystems, including deserts, grasslands, savannas**, scrublands, and open woodlands, are biodiversity hotspots hosting endemic species like the Great Indian Bustard, caracal, and Indian wolf.
- These ecosystems store significant carbon in their soils, contributing to climate regulation, **unlike forests that store carbon primarily in trees**.
- Despite their ecological importance, these lands are often labeled as "**wastelands**" on official maps, a **colonial-era classification that deems them unproductive** and targets them for conversion to agriculture, industry, or plantations.

### 3. Dependence of Pastoral Communities:

- Millions of pastoralist communities, such as the **Dhangar, Rabari, and Kuruba**, rely on these open ecosystems for grazing livestock, which is central to their livelihoods and cultural identity.
- These communities are not just dependent on these lands but also act as stewards of biodiversity, maintaining **ecosystem health through traditional practices** like rotational grazing.
- Interventions like fencing grasslands or converting them into forests disrupt **pastoralists' mobility, local knowledge systems, and economic stability**.

#### 4. Policy Failures and Erasure of Open Ecosystems:

- India's policy framework has historically neglected open ecosystems, prioritizing afforestation or industrial development over their preservation. This has led to the systematic erasure of grasslands and savannas.
- The colonial legacy of classifying these lands as "wastelands" persists, undermining their ecological and cultural value and justifying their transformation.

#### 5. Proposed Solutions for Sustainable Management:

- The article advocates for rethinking restoration strategies to respect the native vegetation and ecological dynamics of drylands. Low-tech solutions like water harvesting, rotational grazing, and protecting natural regrowth are more effective than large-scale tree-planting initiatives.
- Policies should recognize the diversity of ecosystems, promote soil carbon storage, and support pastoralist land-use practices.
- A rebranding of the World Day to Combat Desertification and Drought to "World Day to Combat Land Degradation" is suggested to shift focus from vilifying deserts to addressing actual degradation while respecting their ecological role.

#### 6. Cultural and Ecological Value of Deserts:

- Deserts and open ecosystems are not barren but vibrant, with intricate food webs, seasonal rhythms, and cultural significance. They are far more sustainable than monoculture plantations, which often fail in arid conditions.
- Learning from indigenous knowledge and adapting to the natural constraints of these ecosystems can lead to more resilient and sustainable land management practices.

#### Why India must recognize its Open Ecosystems ?

India must recognize its open ecosystems to protect biodiversity, support pastoralist livelihoods, and enhance climate resilience. Misclassifying these lands as "wastelands" leads to their destruction, threatening species, carbon storage, and the well-being of communities. By valuing these ecosystems and integrating indigenous knowledge into policy, India can foster sustainable development that respects both nature and culture.

### What are Wastelands?

Wastelands are areas of land that are degraded, underutilized, or unproductive due to natural or human-induced factors. They often cannot support significant agricultural, ecological, or economic activity without substantial intervention. Here's a concise breakdown:

#### Types of Wastelands:

**Barren and Rocky Land:** Areas with exposed rock, sand, or gravel, lacking vegetation (e.g., deserts or rocky terrains).

**Degraded Farmland:** Overused or eroded agricultural land with depleted soil fertility.

**Saline/Alkaline Land:** Soils with high salt or alkali content, unsuitable for crops.

**Waterlogged/Marshy Land:** Areas with excessive water, hindering cultivation or development.

**Eroded Land:** Land affected by wind or water erosion, often in hilly or deforested regions.

**Abandoned/Mined Land:** Areas left unproductive after mining or industrial activities.

## Misuse of the Right to Free Speech :SC

**Why in News?.** The Supreme Court of India has recently addressed the growing misuse of the right to free speech, particularly on social media, during a hearing involving a petition by Kolkata resident Wazahat Khan.

**Relevance :** UPSC Pre & Mains

**Prelims :** Provisions related to Free Speech

**Mains:** GS 2

### Key Observations by the Supreme Court:

- **Abuse of Free Speech:** The court noted that the right to freedom of speech and expression, enshrined in the Constitution, is increasingly being misused, especially on social media platforms, to instigate divisive tendencies and spread hatred.
- **Need for Self-Regulation:** Justices **B.V. Nagarathna** and **K.V. Viswanathan** stressed that citizens must exercise self-restraint in their online engagements to avoid disharmony. Justice Nagarathna remarked, “**Citizens must know the value of freedom** of speech and expression... If they don't, the State will have to step in.”
- **Reasonable Restrictions:** The Bench highlighted that the right to free speech comes with reasonable restrictions, as **provided under the Constitution**, to ensure it does not harm fraternity, secularism, or individual dignity.



- **Potential Framework for Regulation:** The court indicated it might consider framing guidelines to regulate abusive and divisive social media content, clarifying that the intent is not censorship but to **promote responsible use of free speech**.
- **Role of Fraternity:** Justice Viswanathan emphasized that greater fraternity among citizens is essential to reduce mutual hatred and foster harmonious coexistence.

#### **Constitutional Provisions on Free Speech:**

The right to freedom of speech and expression is guaranteed under **Article 19(1)(a)** of the Indian Constitution. However, **Article 19(2)** allows the State to impose reasonable restrictions on this right in the interest of:

- Sovereignty and integrity of India
- Security of the State
- Friendly relations with foreign states
- Public order
- Decency or morality
- Contempt of court
- Defamation
- Incitement to an offense

#### **Recent Case laws:**

##### **Rangarajan v. P. Jagjivan Ram (1989) :**

- **Context:** The film *Ore Oru Gramathile* was banned in Tamil Nadu for allegedly promoting anti-reservation sentiments.
- **Key Issue:** Whether the ban on the film was a valid restriction under **Article 19(2)**.
- **Supreme Court Observation:** The court struck down the ban, holding that freedom of speech cannot be curtailed based on apprehensions of public unrest unless there is a clear and direct threat to public order. The court emphasized the importance of open discourse in a democracy.
- **Impact:** This case underscored the need for a direct nexus between the speech and the harm sought to be prevented under **Article 19(2)**.

##### **Shreya Singhal v. Union of India (2015) :**

- **Context:** Section 66A of the Information Technology Act, 2000, which criminalized "offensive" or "menacing" online content, was challenged for being vague and overbroad.
- **Key Issue:** Whether Section 66A violated the right to freedom of speech under Article 19(1)(a).

- **Supreme Court Observation:** The court struck down Section 66A as unconstitutional, holding that it was vague and overbroad, leading to arbitrary restrictions on free speech. The court clarified that restrictions under **Article 19(2)** must be precise and not open to subjective interpretation.
- **Impact:** This landmark judgment strengthened protections for online free speech and set a precedent against vague laws that could be misused to curb expression.

#### **Anuradha Bhasin v. Union of India (2020) :**

- **Context:** The petitioner challenged internet shutdowns in Jammu and Kashmir following the abrogation of **Article 370**, arguing they violated freedom of speech and access to information.
- **Key Issue:** Whether blanket internet restrictions were a valid restriction under **Article 19(2)**.
- **Supreme Court Observation:** The court recognized access to the internet as part of freedom of speech and expression. It held that restrictions must be proportionate, temporary, and justified with clear reasons under Article 19(2). The court directed the government to review and limit such shutdowns.
- **Impact:** This case established that **internet access is integral to free speech** and that restrictions must meet **the test of proportionality**.

#### **Amish Devgan v. Union of India (2020):**

- **Context:** TV anchor Amish Devgan faced multiple FIRs for allegedly making derogatory remarks about a religious figure during a broadcast.
- **Key Issue:** Whether the remarks constituted hate speech warranting restrictions under **Article 19(2)**.
- **Supreme Court Observation:** The court emphasized that hate speech must be evaluated based on its context, intent, and potential to incite violence or disharmony. It granted interim protection to the petitioner but stressed that free speech is subject to reasonable restrictions to prevent harm to public order or communal harmony.
- **Impact:** The case clarified the balance between free speech and the need to curb hate speech under Article 19(2).

## **The National Mobile Monitoring System (NMMS)**

**Why in News ?** The **National Mobile Monitoring System (NMMS)**, designed to enhance transparency in Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), has come under scrutiny due to **widespread misuse and manipulation**.

**Relevance :** UPSC Pre & Mains

**Prelims :** NMMS

**Mains :** GS1/GS 2/GS 3

- On **July 8, 2025**, the **Union Rural Development Ministry** issued a detailed **13-page note** to State governments, highlighting major discrepancies in the NMMS-based digital attendance system.
- In response, the Ministry has introduced **four layers of analog monitoring** to restore system credibility and curb misuse.
- The government has stated firmly that **no relaxation will be allowed in cases of misuse**.

**Key Issues Highlighted by the Centre:**

The Ministry identified at least **seven critical ways** in which the NMMS is being misused:

**Irrelevant or Unrelated Photographs:**

- Photographs uploaded are often unrelated to the actual worksite or workers, undermining the purpose of attendance verification.

**Photo-to-Photo Capturing (Fraudulent Uploads):**

- In some instances, photographs of existing photos are uploaded instead of capturing real-time images, indicating **fraudulent practices**.

**Mismatch in Actual vs. Recorded Worker Count:**

- Discrepancies exist between the **number of workers physically present** and the **number recorded in the NMMS system**.

**Gender Composition Mismatch:**

- The gender data of workers uploaded in the NMMS often does not match the actual gender composition at the site.

**Reuse of Same Photo in Multiple Muster Rolls:**

- **Identical photographs** are used in different muster rolls to **artificially inflate attendance records**.

**Mismatch Between Morning and Afternoon Photos:**

- Significant inconsistencies have been found between **morning and afternoon photographs**, raising doubts about actual attendance.

**Non-Uploading of Afternoon Photographs:**

- Many worksites fail to upload the mandatory **second photograph (afternoon)**, violating NMMS protocol, especially when worker numbers exceed 20.

**Steps Taken by the Government:**

To address these concerns, the government has initiated **stringent measures**, including:

- **Four Layers of Analog Monitoring:**

Verification will now be conducted at:

- **Gram Panchayat Level (100% verification mandatory)**
- **Block Level**
- **District Level**
- **State Level**

- **Editing of Muster Rolls:**

- Earlier, only District Collectors could edit muster rolls.
- Now, **editing is allowed at lower administrative levels** (Gram Panchayat, Block) before wage bills are prepared, to ensure corrections can be made promptly.

### **About the National Mobile Monitoring System (NMMS):**

<b>Feature</b>	<b>Details</b>
<b>Launch Date</b>	<b>21 May 2021</b>
<b>Objective</b>	Enhance <b>transparency &amp; accountability</b> in <b>MGNREGS</b> through digital attendance
<b>Mechanism</b>	Uploading of <b>geo-tagged photographs of workers</b> twice daily: 1. At arrival at the worksite 2. At end of shift
<b>Exemption</b>	For worksites with <b>20 or fewer workers</b> , only the morning photo is mandatory
<b>Primary Aim</b>	Prevent corruption, reduce ghost workers, ensure real-time monitoring - Technical glitches
<b>Challenges Faced</b>	- Poor internet connectivity in rural areas - Digital illiteracy among MGNREGS field staff - Widespread manipulation & misuse

## **Holy Scriptures Bill, 2025**

**Why in News?** The Punjab Government has introduced the Prevention of Offences against Holy Scriptures Bill, 2025. This legislation aims to protect religious harmony by criminalising acts of sacrilege against sacred texts. It proposes stringent punishments including life imprisonment and heavy fines. The Bill covers scriptures revered by multiple faiths in Punjab, reflecting the region's diverse religious fabric.

**Relevance :** UPSC Pre & Mains

**Prelims :Key Provisions of Bill**

**Mains: GS 2**

**Definition of Offence:**

The Bill defines an **offence** as any **act of sacrilege against holy scriptures**.

This includes:

- Damaging
- Defacing
- Destroying
- Disfiguring
- Burning
- Tearing
- Or any **similar act that harms the sanctity of these texts**.

The definition applies to the **entire scripture** or **any part thereof**. The objective is to **protect all major religious communities equally**.

**Scope of Scriptures Protected:**

The Bill explicitly lists key **sacred scriptures** held holy by different religious groups in Punjab:

- **Sri Guru Granth Sahib** and its extracts (e.g., **Pothis, Gutka Sahib**)
- **Srimad Bhagavad Gita**
- **Quran Sharif**
- **Holy Bible**

This **inclusive approach** recognises Punjab's **pluralistic society** and aims to ensure **equal respect** for all faiths.

**Investigation and Enforcement**

- **Only police officers of the rank of Deputy Superintendent (DSP) or above** will investigate these offences.
- This ensures **seriousness, prompt action, and proper enforcement**.
- The government has emphasised a **robust enforcement mechanism** to prevent a recurrence of sacrilege incidents.

## Very Low Sulphur Fuel Oil (VLSFO)

**Why in News ?** The global shipping industry, a critical pillar of international trade, is steadily moving towards decarbonisation, with ambitious targets set for 2040-2050. Currently, merchant

vessels primarily rely on conventional fuels like Very Low Sulphur Fuel Oil (VLSFO), diesel, and liquefied methane (LNG)

**Relevance :** UPSC Pre & Mains

Prelims : VLSFO/LNG

**Mains :** GS 3/Environment

- **Global shipping is moving towards** net zero emissions by 2040-2050.
- Merchant ships currently use **Very Low Sulphur Fuel Oil (VLSFO), diesel, and Liquefied Natural Gas (LNG).**

### **Green Fuels for Shipping**

- **Green Methanol:** Made from green hydrogen and industrial CO<sub>2</sub>; emits ~10% of carbon compared to VLSFO.
- **Green Ammonia:** Made from green hydrogen and nitrogen; emits **zero greenhouse gas**, but needs engine modifications.
- **Biofuels & E-Methanol:** Transitional fuels until full green adoption.

### **Challenges in Adoption**

- **High Costs:** E-methanol costs **\$1950/tonne**, while VLSFO costs only **\$560/tonne**.
- **Technology Hesitation:** Shipping is conservative; adoption of new tech is slow.
- **Infrastructure Requirements:** Specialized storage and engine modifications needed for ammonia.

### **About Very Low Sulphur Fuel Oil (VLSFO):**

#### **What is VLSFO?**

- VLSFO (Very Low Sulphur Fuel Oil) is a marine fuel that contains **0.5% or less sulphur content** by weight.
- It was introduced globally after the **IMO 2020 regulations** by the **International Maritime Organization (IMO)** to reduce air pollution from shipping.

#### **Why was VLSFO Introduced?**

- **IMO 2020 Sulphur Cap:**
  - Reduced the permissible sulphur content in marine fuels from **3.5% to 0.5%** starting **January 1, 2020**.
  - Goal: **Minimize air pollution** (especially sulphur dioxide emissions) from ships to improve global health and environmental quality.

#### **Advantages of VLSFO:**

- **Reduced Air Pollution:** Lower sulphur emissions lead to fewer cases of acid rain and respiratory problems.
- **Compliance with IMO Norms:** Allows shipping companies to avoid penalties and fines.
- **Cleaner Ports & Coastal Areas:** Less impact on coastal ecosystems.



## The Central Adoption Resource Authority (CARA)

**Why in News?** The Central Adoption Resource Authority (CARA) has recently issued **directives to all State Adoption Resource Agencies (SARAs)** to institutionalize **structured counselling services** at every stage of the adoption process:

**Relevance :** UPSC Pre & Mains

**Prelims :** CARA/SARS

**Mains :** GS1 ( Social Issues)

**Stages:**

- **Pre-Adoption Counselling**
- **During the Adoption Process**
- **Post-Adoption Counselling**

These measures aim to make the adoption journey smoother and more transparent for adoptive parents, biological parents (in case of surrender), and adopted children.

**Why Counselling in Adoption Is Important:**

**Pre-Adoption Stage:**

- Helps adoptive parents understand the emotional, social, and legal implications.
- Prepares biological parents (in surrender cases) for the decision's consequences.

**During Adoption:**

- Guides parents through complex legal and documentation procedures.
- Ensures psychological readiness to bond with the child.

**Post-Adoption Stage:**

- Addresses adjustment issues, identity formation, and emotional bonding.
- Provides long-term support for adopted children dealing with trauma, loss, or curiosity about biological roots.

**Legal Framework Governing Adoption in India:**

- Adoption in India is regulated primarily by **two laws:**

**The Hindu Adoption and Maintenance Act (HAMA), 1956:**

- Applicable to **Hindus, Jains, Sikhs, and Buddhists**.
- Governs only **domestic adoptions** within the Hindu community.
- Allows the adoption of both boys and girls, but subject to specific conditions (e.g., adoptive parents must not have a child of the same gender).

**The Juvenile Justice (Care and Protection of Children) Act, 2015:**

- **Applies to all Indian citizens**, irrespective of religion.

- Regulates adoption through the **Central Adoption Resource Authority (CARA)**.
- Makes adoption legally binding and transparent, ensuring the child's best interest.

#### About Central Adoption Resource Authority (CARA):

- **Statutory Body** under the **Ministry of Women & Child Development**.
- **Established in 1990** to streamline the adoption process in India.
- Became a **statutory body under the Juvenile Justice Act, 2015**.

#### Functions of CARA:

- **Regulates and monitors adoptions** within India and for foreign nationals.
- Ensures **ethical, transparent, and legal adoption processes**.
- Maintains the **Child Adoption Resource Information and Guidance System (CARINGS)**—a centralized portal for adoption cases.
- Handles **both in-country and inter-country adoptions**, ensuring that inter-country adoptions comply with **The Hague Convention on Inter-country Adoption, 1993**.

#### About the Hague Convention on Inter-country Adoption, 1993:

- An **international treaty** to protect children from trafficking and illegal adoptions.
- **India is a signatory** and follows its guidelines.
- The convention ensures that **inter-country adoptions are ethical, transparent, and prioritize the child's welfare**.

#### Way Forward:

1. **Capacity Building:**  
Train social workers and counsellors to handle sensitive adoption issues.
2. **Awareness Programs:**  
Promote awareness about **legal adoption** to reduce stigma and prevent illegal child transfers.
3. **Digital Tools:**  
Expand CARINGS for better tracking, matching, and counselling services.
4. **Monitoring Mechanisms:**  
Establish feedback systems to evaluate the effectiveness of counselling support.

#### Conclusion:

CARA's decision to strengthen **counselling support at all stages of adoption** is a progressive step towards ensuring the **best interests of the child**, aligning with **national laws** and **global conventions**. It also promotes a more informed, sensitive, and humane adoption ecosystem in India.

## Sanitary and Phytosanitary Measures (SPS)

**Why in News?** India and the European Union (EU) continue to differ on Sanitary and Phytosanitary Measures (SPS), which govern food and animal safety rules and are key to India's agricultural and processed food exports to the EU.

**Relevance :** UPSC Pre & Mains

**Prelims :** SPS

**Mains:** GS 3

This assumes significance as the EU is India's largest and most premium export destination for agricultural items, particularly coffee, tea, spices, and rice. However, India's exports to the EU have seen limited growth over the years, rising from \$3.02 billion in FY19 to \$4.54 billion in FY25, largely due to the stringent standards imposed by the EU on foreign agricultural products.

**About Sanitary and Phytosanitary Measures (SPS):**

**What are SPS Measures?**

**Sanitary and Phytosanitary (SPS) Measures** are rules and regulations applied by countries to:

**Protect human and animal health** from risks arising from:

- Contaminated food
- Animal diseases

**Protect plant health** from pests or diseases

These measures are especially relevant in international trade of food, agricultural, and animal products.

**Purpose of SPS Measures:**

- Ensure food safety
- Prevent the spread of pests and diseases
- Maintain biosecurity and public health standards

**Examples of SPS Measures:**

- Food safety regulations regarding maximum pesticide residue levels
- Standards for animal health certification during meat exports
- Restrictions on imports of plants or seeds that may carry pests
- Ban on certain agricultural imports from disease-affected regions

**SPS Agreement (WTO):**

- The World Trade Organization (WTO) governs SPS measures under the SPS Agreement (1995).

- The **SPS Agreement** allows countries to set their own food safety and animal/plant health standards but requires:
  - Measures to be **scientifically justified**
  - Measures to not be **disguised trade barriers**
  - **Transparency and non-discrimination** in enforcement

#### India-EU SPS Issues:

- The **European Union (EU)** applies very **stringent SPS standards**.
- This affects **India's agricultural exports** like:
  - Coffee
  - Tea
  - Rice
  - Spices
- The EU often imposes restrictions citing **food safety concerns**, limiting India's access to the European market.
- **India argues** that some of these measures go beyond necessary safety precautions and act as **non-tariff barriers** to trade.

#### Why is SPS important for India?

- **Agricultural exports** are a major part of India's trade with the EU.
- Resolving SPS issues is critical for boosting **farmers' income** and expanding India's **global agricultural footprint**.
- Addressing SPS disputes is a key part of **Free Trade Agreement (FTA) negotiations** with the EU.

#### Way Forward:

- Enhance **domestic quality standards** to meet international norms.
- Improve **traceability, certification, and testing infrastructure**.
- Engage in **bilateral dialogues** and **WTO consultations** to resolve disputes.

## UN Sustainable Development Report 2025

**Why in News?** The **10th United Nations Sustainable Development Goals (SDG) Report 2025** has raised serious concerns about the global progress toward the **2030 Agenda**. Rather than moving forward, several nations are witnessing stagnation or even a reversal in achieving their goals, putting the dream of sustainable and inclusive development at risk.

**Relevance :** UPSC Pre & Mains

**Prelims : SDG 2025**

**Mains : GS 3**

**Overall Global Status:**

- Progress on **35% of SDG targets** (spread over **14 out of 17 goals**) has either halted or moved backward.
- **Critical concerns** arise in **SDG 2 (Zero Hunger)**, **SDG 4 (Quality Education)**, **SDG 6 (Water & Sanitation)**, **SDG 8 (Decent Work)**, and **SDG 10 (Reducing Inequality)**—with **50–57% of these targets regressing**.
- Other endangered areas include **SDGs 12, 14, 15, and 16**, where **40–42% of targets are off-track**.

**Specific Goal-Wise Highlights:**

**SDG 2: Zero Hunger**

- **4 of the 7 targets** under this goal are currently in decline.
- The global hunger rate has risen to **9.1%**, affecting between **713 to 757 million people**, compared to **7.5% in 2019**.
- **Sub-Saharan Africa** reports the highest hunger rate at **23.2%**, while **South Asia** has the largest number of hungry individuals, totaling **232 million**.
- In **2023**, nearly **50% of countries** faced **severe food price inflation**, which is about **three times higher than pre-pandemic levels**.

**SDG 4: Quality Education:**

- **57% of educational targets** are experiencing no progress or setbacks.
- Key areas of concern include school completion rates, foundational literacy, and gender parity in education.

**SDG 6: Clean Water & Sanitation:**

- Almost **half of the targets** are failing to progress.
- In **2024**, around **2.2 billion people** did not have access to safe drinking water, **3.4 billion lacked sanitation**, and **1.7 billion people** lived without basic hygiene facilities.

**SDG 8: Decent Work & Economic Growth:**

- **50–57% of the targets** are regressing.
- **Informal employment** makes up **57.8% of the global workforce (2024)**.
- **Youth unemployment** stands at **12.9%**, over **three times the adult unemployment rate (3.7%)**.

**SDG 10: Reducing Inequality:**

- Inequalities are widening globally, particularly in terms of income, access to vaccines, digital connectivity, and climate resilience.



- No significant policy changes have been implemented globally to address redistribution post-pandemic.

#### Other Areas of Concern:

- **SDG 14 (Life Below Water)** is underfunded and faces severe threats from marine pollution and depleting fish stocks.
- **SDG 3 (Good Health and Well-Being)**: Two of its twelve targets—maternal mortality and universal health coverage—show stagnation. Post-pandemic recovery of health systems remains sluggish.

#### Encouraging Developments:

- **HIV infections** have decreased by **nearly 40% since 2010**.
- **Malaria prevention efforts** have averted **2.2 billion cases** and saved **12.7 million lives** since 2000.
- **Social protection schemes** now reach more than **50% of the world's population**.

#### Climate Concerns:

- **2024** became the hottest year on record, with temperatures averaging **1.55°C above pre-industrial levels**.
- The **World Meteorological Organization (WMO)** predicts an **80% probability** that at least one year between **2025 and 2029** will break this temperature record.

#### Financing the SDGs:

- **Official Development Assistance (ODA)** dropped by **7.1% in 2024**, ending a consistent five-year growth period.
- The estimated global **annual SDG financing gap** is **US\$4 trillion**.

#### Governance and Conflict:

- Over **60 nations** are currently affected by conflicts and political instability, hampering progress on **SDG 16 (Peace, Justice, and Strong Institutions)**.

## Flue Gas Desulphurisation (FGD)

**Why in News?** The Environment Ministry of India has recently announced that **78% of coal-based thermal power plants** will not need to install Flue Gas Desulphurisation (FGD) devices, which are meant to reduce **sulphur dioxide (SO<sub>2</sub>) pollution**.

**Relevance :** UPSC Pre & Mains

**Prelims :** FGD

**Mains :** GS3



### What is Flue Gas Desulphurisation (FGD)?

- FGD devices help remove sulphur dioxide (SO<sub>2</sub>) from the exhaust gases of coal power plants.
- SO<sub>2</sub> is **harmful** because it:
  - Causes **acid rain**
  - Leads to **asthma, bronchitis, heart disease, and lung problems**
  - Increases **PM<sub>2.5</sub> pollution** (fine particulate matter that is dangerous for health)

### Why are SO<sub>2</sub> Emissions a Problem?

- SO<sub>2</sub> from coal plants reacts with ammonia in the air, forming tiny particles (PM<sub>2.5</sub>) that:
  - Affect the lungs and heart
  - Cause **cancer, strokes, and early death**
- India is the world's largest SO<sub>2</sub> emitter from coal-based power plants.
- SO<sub>2</sub> also damages crops, soil, and buildings.

### What was the Original Rule?

- In **2015**, the government set new **pollution control rules**.
- All coal plants were told to **install FGDs by 2017**.
- But the plants asked for more time because:
  - **Installing FGDs is costly**
  - It could **disrupt electricity supply** during installation.

### is the Latest Decision (2025)?

- The government has **relaxed the rules**.
- **Category C plants**, if set up after December 2003, do not need to install FGDs.
- **Plants that will retire by 2030** are **fully exempt**.
- Plants can now **apply for exemptions** on a **case-by-case basis**.

### Why did the Government Change the Rule?

Based on **3 studies** by:

- **IIT Delhi**
- **National Institute of Advanced Studies (NIAS)**
- **NEERI (National Environmental Engineering Research Institute)**

### Findings of the studies:

- SO<sub>2</sub> emissions from plants are within safe limits.
- FGDs are not needed everywhere.
- Focus should be on **reducing PM<sub>2.5</sub>**, not just SO<sub>2</sub>.
- FGDs **increase carbon dioxide (CO<sub>2</sub>) emissions**, which worsens **climate change**.

## Vice-President Resigned

**Why in News?** Vice-President Jagdeep Dhankhar resigned recently, creating a rare mid-term vacancy in India's second-highest constitutional office.

He is the third Vice-President to resign before completing his term, following V.V. Giri and R. Venkataraman, who stepped down to contest presidential elections and were succeeded by Gopal Swarup Pathak and Shankar Dayal Sharma, respectively.

**Relevance :** UPSC Pre & Mains

**Prelims :** Vice President Elections

**Mains :** GS2

**Who performs the Vice-President's duties now?**

- The Constitution does not provide for an acting Vice-President. However, as the **Vice-President is the ex-officio Chairman** of the Rajya Sabha, the Deputy Chairman, currently Harivansh Narayan Singh, will preside over the **Rajya Sabha in the Vice-President's absence**.

**When will the election be held?**

- Unlike the President, where the Constitution mandates filling a vacancy **within six months, there is no fixed deadline for a Vice-Presidential election**. The Constitution requires the election to be held "as soon as possible."
- The Election Commission will announce the schedule, and the poll will be conducted under the **Presidential and Vice-Presidential Elections Act, 1952**. Conventionally, the Secretary General of either House of Parliament is appointed as the Returning Officer, in rotation.

**How long will the new Vice-President serve?**

- The elected Vice-President will serve a full five-year term from the date of assuming office, not merely the remainder of Dhankhar's tenure.

**How is a new Vice-President elected?**

- The Vice-President is elected by an electoral college comprising members of both Houses of Parliament—Lok Sabha and Rajya Sabha, including nominated members. State legislatures **do not participate, unlike in presidential elections**. Voting occurs in Parliament House, New Delhi, by secret ballot, using proportional representation with a single transferable vote. Each MP ranks candidates by preference, with all votes carrying equal value.

- A candidate must secure a **minimum quota of votes**, calculated by **dividing the total valid votes by two and adding one (ignoring fractions)**. If no candidate meets the quota in the first round, the candidate with the fewest first-preference votes is eliminated, and their **votes are redistributed based on second preferences**. This continues until a candidate surpasses the quota.

#### What are the eligibility criteria for candidates?

- A Vice-Presidential candidate must be an Indian citizen, at least 35 years old, qualified for election to the **Rajya Sabha**, and registered as an elector in any parliamentary constituency. They must not hold any office of profit under the central or state governments, except roles like **President, Governor, or Minister**.

#### About the Presidential and Vice-Presidential Elections Act, 1952:

- The **Presidential and Vice-Presidential Elections Act, 1952** is an Indian law that regulates the election process for the offices of the President and Vice-President of India. Enacted on March 14, 1952, it provides a legal framework for the nomination, election, and dispute resolution processes related to these constitutional positions, in alignment with **Articles 54 to 71 of the Indian Constitution**.

#### Key Provisions of the Act:

##### Definitions (Section 2):

- **Election:** Refers to either a Presidential or Vice-Presidential election.
- **Elector:** For a Presidential election, an elector is a member of the electoral college as per Article 54 (elected members of both Houses of Parliament and elected members of State Legislative Assemblies, including those of Delhi and Puducherry). For a Vice-Presidential election, electors are members of both Houses of Parliament (elected and nominated) as per **Article 66**.

##### Nomination of Candidates (Section 5):

- **Eligibility:** Candidates must meet constitutional qualifications:
  - For President: **Must be a citizen of India, at least 35 years old**, and qualified to be elected as a **Lok Sabha member (Article 58)**.
  - For Vice-President: Same as above, but must be qualified to be a **Rajya Sabha member (Article 66)**.
  - Candidates cannot hold any **office of profit**.
- **Nomination Process:**
  - Nomination papers must be delivered to the **Returning Officer** in New Delhi between 11 a.m. and 3 p.m. on any day (except public holidays) before the specified deadline.

- Each nomination must be accompanied by a certified copy of the candidate's entry in the electoral roll of their Parliamentary constituency.
- A deposit of **Rs15,000 is required, refundable if the nomination** is valid and the candidate is not elected.
- For Presidential elections, nominations must be supported by at least 50 electors as proposers and 50 as seconders. For Vice-Presidential elections, the requirement is **20 proposers and 20 seconders**.
- **Scrutiny:** The Returning Officer examines nominations under **Section 5E**, and invalid nominations may be rejected under **Section 5B(4)**.

### 3. Election Process (Sections 4, 8-11):

- **Notification:** The Election Commission issues a notification under **Section 4** to appoint dates for nominations, scrutiny, withdrawal, and polling. For elections due to term expiration, the notification is issued at least **60 days before** the outgoing President or Vice-President's term ends.
- **Voting:** Conducted using the **Proportional Representation by Single Transferable Vote** system. Polls for Vice-Presidential elections are held in the Parliament House (**Rule 8, Presidential and Vice-Presidential Elections Rules, 1974**).
- **Counting and Results:** After vote counting, the Returning Officer declares the result and reports it to the Central Government and Election Commission. The result is published in the **Official Gazette**.

### 4. Disputes Regarding Elections (Part III, Sections 13-20):

- **Election Petitions:** Disputes are resolved by the Supreme Court, which has exclusive jurisdiction. No civil court can question the legality of actions taken by the Returning Officer or other officials.
- **Grounds for Declaring Election Void:** The Supreme Court may declare an election void if:
  - The elected candidate **was not qualified or was disqualified**.
  - Corrupt practices (e.g., bribery, undue influence) materially affected the result.
  - The nomination of a candidate was wrongly accepted or rejected.
- **Authority for Disputes:** Initially, the Act allowed Parliament to establish an authority for disputes, but amendments (post the **Constitution's Thirty-ninth Amendment Act, 1975**) restored the Supreme Court as the sole authority for resolving election disputes.

## NISAR

**Why in News?** NISAR (NASA-ISRO Synthetic Aperture Radar) is set to be launched on **July 30, 2025**, at **5:40 p.m.**

**Relevance :** UPSC Pre & Mains

**Prelims :** NISAR

**Mains :** GS3

It will be launched from **Sriharikota** using the **GSLV-F16 rocket**.

- This is the **first joint Earth observation satellite** developed by **NASA and ISRO**.
- It marks a major Indo-US collaboration after over a **decade of joint development efforts**.

### Key Features:

- **Dual-frequency Synthetic Aperture Radar (SAR):**
  - **L-band SAR (NASA)** for deep surface penetration
  - **S-band SAR (ISRO)** for surface-level observations
- **12-meter unfurlable mesh reflector antenna**, the largest of its kind in an ISRO satellite.
- **SweepSAR technology** used for the **first time** for broad-area scanning with high resolution.
- **Wide coverage:** Scans a **242 km swath** with high spatial resolution.
- **Orbit:** Sun-synchronous orbit at **743 km altitude**, inclination of **98.4 degrees**.
- **Observation frequency:** Scans the entire Earth every **12 days**, providing **all-weather, day and night data**.
- **Satellite weight:** 2,392 kg

### About NISAR:

NISAR stands for **NASA-ISRO Synthetic Aperture Radar**.

It is a unique **Earth observation satellite** meant to monitor and detect subtle changes on the Earth's surface.

### Applications:

- **Ground deformation detection:** Earthquakes, landslides, and subsidence
- **Ice sheet and glacier monitoring**
- **Vegetation dynamics and forest monitoring**
- **Soil moisture assessment for agriculture**
- **Disaster management:** Floods, storms, and cyclones
- **Sea ice mapping and ship detection**
- **Surface water resource mapping**
- **Coastal and shoreline changes**



## Financial Inclusion Index (FI-Index)-2025

**Why in News?** The Reserve Bank of India (RBI) on Tuesday (22 July 2025) released the latest **Financial Inclusion Index (FI-Index)** data for the year ending **March 2025**, which shows a **significant improvement** in the country's financial inclusion landscape.

**Relevance :** UPSC Pre & Mains

**Prelims :** FI -INDEX

**Mains :** GS3

- The **FI-Index rose to 67** in March 2025 from **64.2** in March 2024.
- This is a **4.3% increase** in one year, indicating expanded **access, usage, and quality** of financial services.
- According to RBI, the rise was particularly due to **increased usage and improved quality** of services, not just access.

**What is the Financial Inclusion Index (FI-Index)?**

The **FI-Index** is a **composite index** developed by the **Reserve Bank of India** to **measure the extent of financial inclusion** across the country.

**When was it introduced?**

- **First published in August 2021**
- **Covers data from FY ending March 2021**
- **Updated annually**

**Purpose:**

- Tracks how well financial services are **reaching different segments** of society.
- Reflects **improvements or challenges** in making banking and other financial tools **available, accessible, and useful** to people.

**Who developed it?**

Created by RBI in **consultation with Government of India and other sectoral regulators** like:

- **IRDAI (Insurance)**
- **SEBI (Investments)**
- **PFRDA (Pension)**
- **Department of Posts**

**Structure of the FI-Index:**

The FI-Index is **multi-dimensional** and based on **3 broad parameters**, with respective weightages:





### Parameter Weightage

### Explanation

**1. Access** 35%

Availability of financial infrastructure – bank branches, ATMs, banking correspondents, mobile banking, etc.

**2. Usage** 45%

Actual usage of services like bank accounts, digital transactions, loans, insurance, etc.

**3. Quality** 20%

Measures awareness, transparency, grievance redressal, and financial literacy.

### Index Range:

- 0 = Complete financial exclusion
- 100 = Full financial inclusion

### Key Highlights – March 2025 Data

#### FI-Index Value:

- 67 in March 2025
- Up from 64.2 in March 2024
- Reflects **steady progress** across all parameters

#### What drove the increase?

- Higher **usage** of digital banking, UPI, micro-credit, insurance, etc.
- Improved **quality** in terms of:
  - Better **customer experience**
  - Stronger **grievance redressal**
  - Enhanced **financial literacy programs**

## AI : Copyright: Legal Issue

**Why in News?** Whether the intellectual material produced by various generative AI models infringes copyright laws has been a controversial question posed around the globe.

**Relevance :** UPSC Pre & Mains

**Prelims :** Copyright related terms

**Mains :** GS3

### AI and Copyright: Legal Position – A Concise Summary

#### Do AI models violate copyright law?

- AI models are trained on vast datasets, including both **copyrighted and public domain content**. Courts have raised concerns about whether this training and the resulting outputs

**infringe reproduction rights** or qualify as **fair use** (U.S.) or fall under **text and data mining exceptions** (EU, UK). The legality remains unsettled globally.

### Can copyrighted content be used in training?

Recent **U.S. rulings (2025)**—*Thomson Reuters vs. Ross Intelligence*, *Bartz vs. Anthropic*, and *Kadrey vs. Meta*—suggest that training on **legitimately acquired copyrighted data** may qualify as **fair use**, provided:

- It's **transformative**, not merely substitutive;
- It does **not harm the original's market**.

However, training on **pirated content** or without regard for potential market impact remains legally risky.

### What about AI outputs and ownership?

- There is **no global clarity** on who owns AI-generated content or whether it qualifies for copyright. Traditional IP laws, designed for human authors, **do not directly recognise AI as a creator**.

### Legal concerns with databases:

- Use of proprietary databases for training raises issues under **IP, contract law, and privacy regulations**. While some countries offer **fair use** or **data mining exceptions**, there's **no harmonised international framework**, leading to legal ambiguity.

### Indian context:

- Under the **Copyright Act, 1957**, creators have exclusive rights. **Fair dealing (Section 52)** may allow limited use, but **AI-specific guidelines are lacking**. India believes its existing IP framework suffices, though a clear stance on **AI-generated content ownership** is awaited. The ongoing *ANI vs. OpenAI* case may shape future interpretations.

### Conclusion:

Courts are cautiously allowing **transformative AI training** under fair use, especially in the U.S., but **pirated data, market harm, and lack of creator compensation** remain legal and ethical concerns. India needs clearer AI-IPR norms aligned with emerging global standards.

## World Bank Report on Indian Cities: 2025

**Why in News?** A new **World Bank report**, launched on **July 22**, warns that **Indian cities need \$2.4 trillion by 2050** to build **climate-resilient infrastructure and services**, or they risk losing up to **\$5 billion due to floods**, even as they are projected to create **70% of new jobs by 2030**.

**Relevance :** UPSC/UPPSC

**Prelims :** About Reports/**Urban heat island effect**.

**Mains :GS 1/GS 3**

**Key Points of the Article:**

**Economic and Employment Projections:**

- By **2030**, Indian cities will account for **70% of new employment**.
- By **2050**, **India's urban population** is projected to **nearly double to 951 million**.

#### **Cost of Climate Resilience:**

- Indian cities will require **\$2.4 trillion** by **2050** for **climate-resilient infrastructure** and services.

#### **High Risk of Floods:**

- **Flood risk is rising rapidly** due to rapid urbanization.
- Cities exposed to flooding are growing fast and are **not only densely populated but also structurally vulnerable**.
- Estimated **loss due to floods over 15 years is \$5 billion**.

#### **Urban Autonomy and Governance:**

- Cities with more **decision-making autonomy** perform better in managing climate risk.
- Implementation of the **74th Constitutional Amendment** (which empowers Urban Local Bodies) is still weak in many states.

#### **Heat-related Deaths:**

- Heat-related deaths could exceed **1.3 lakh annually** by 2050 due to the **urban heat island effect**.
- Structures and roads that absorb and release heat at night worsen the situation.

#### **World Bank Recommendations:**

1. Invest in **climate-resilient transport, housing, stormwater drainage, and urban planning**.
2. Emphasize **data and risk-informed decision-making**.
3. Promote **private sector participation** in climate adaptation infrastructure.

#### **Additional Report Insights:**

- The **Resilient and Prosperous Cities in India** report analyzed 10 large cities between 1983–1990 to 2010–2016.
- Exposure to heat stress increased by **17%**.
- Urban planning must include **flood zones, cooling designs, and green infrastructure**.

## **Presidential Reference**

**Why in News?** The Supreme Court of India has recently issued notices to the Union Government and all State Governments in response to a **Presidential Reference**. The court is being asked to give its **opinion** on whether the **President and Governors** can be **judicially compelled** to act **within a specific time frame** on **Bills passed by State Legislatures**.

**Relevance :** UPSC Pre & Mains

**Prelims :** Art 143 / advisory jurisdiction of the Court

**Mains :** GS2

### Context of the Presidential Reference:

- The issue stems from the **Supreme Court's landmark ruling on April 8, 2024**, where it held that:
  - **Governors and the President** cannot **indefinitely delay** decision-making on **State Bills**.
  - For the first time, the Court **enforced judicial timelines** on constitutional authorities.
  - This ruling came in response to **Tamil Nadu's petition** against **Governor R.N. Ravi**, who had delayed action on **10 State Bills** and later reserved them for Presidential consideration.

### What is a Presidential Reference?

- **Under Article 143(1)** of the Constitution:
  - The **President of India** can refer questions of **law or fact** of **public importance** to the **Supreme Court**.
  - This is known as the **advisory jurisdiction** of the Court.
  - The Court is not dealing with a dispute but giving a **legal opinion**.

### What Questions Are Being Asked?

The **President has raised 14 legal questions**, broadly seeking clarity on:

- Whether the **President or Governors** can be **legally bound** to act **within time limits** on Bills passed by State legislatures.
- Can **courts prescribe timelines** for such constitutional authorities?
- What is the **proper constitutional role** of the President and Governors in the **legislative process**?

### Can the Supreme Court Refuse a Reference?

- **Yes**. Though the President may send a Reference, the **Court is not bound** to answer it.
- In **In Re: Special Courts Bill (1978)**, the Court said it "**may**" answer a Reference — giving it **discretion**.
- In **1993**, the Court **refused to answer** the **Ayodhya-Babri Masjid dispute** Reference, calling it **unconstitutional**.

### Are Advisory Opinions Binding?

- **Technically, No**.
  - **Advisory opinions** do **not have binding force**, unlike rulings under Article 141.
  - But they carry **strong persuasive authority**.
- **Example:**

- In **R.K. Garg v. Union of India (1981)**, Justice Bhagwati treated a past advisory opinion as **binding**.
- However, courts generally treat such opinions as **guidance**, not strict law.

#### Can the April 8, 2024, Ruling Be Overturned by This Reference?

- **No.** A Presidential Reference **cannot be used to review or overturn a settled court ruling**.
- Only a **review petition** or **curative petition** can be filed for that purpose.
- The **April 8 decision**, being adjudicatory in nature under **Article 141**, **continues to prevail**.

#### However:

- Under **Article 143(1)**, the Court **can refine or clarify** earlier rulings **without overturning** them.
  - Example: **Natural Resources Allocation Case (2012)** — clarified spectrum allocation rules.
  - **1998 Judicial Appointments Reference**: Revised functioning of the **collegium system** without overturning the 1993 ruling.

#### Conclusion:

- The **current Reference** is aimed at **clarifying constitutional boundaries** between the **executive and judiciary**.
- It will have **important implications** for **federalism, governance**, and the **timely enactment of State laws**.
- While **not binding**, the Supreme Court's opinion will influence future governance and legislative-constitutional practice in India.

## (NAMASTE) 2024

**Why in News?** The scheme was recently in news.

**Prelims :** NAMASTE

**Mains :** GS 1/ GS 3

**About National Action for Mechanised Sanitation Ecosystem (NAMASTE), 2024:**

NAMASTE is a central government scheme launched in 2023 to mechanise hazardous sanitation work and formalise the employment of sanitation workers and waste pickers. It is jointly implemented by the Ministry of Social Justice and Empowerment and the Ministry of Housing and Urban Affairs.



## Objectives

- Achieve **zero fatalities** in hazardous cleaning of sewers and septic tanks.
- Ensure **full mechanisation** of sanitation work.
- Formalise employment of **sanitation workers and waste pickers**.
- Promote **sanitation entrepreneurship (sanitpreneurs)**.
- Provide **social security, health insurance, and livelihood support** to workers.

## Key Features:

### Target Groups:

- Sewer and septic tank workers (SSWs)
- Waste pickers (included from FY 2024–25)

### Worker Profiling:

- Enumeration and skill profiling of workers across 4,800+ Urban Local Bodies (ULBs).
- Use of a digital app to register workers and track benefits.

### Safety & Health Measures:

- Distribution of **Personal Protective Equipment (PPE) kits**.
- Setting up **Emergency Response Sanitation Units (ERSUs)**.
- Provision of **health insurance** under Ayushman Bharat – PMJAY.

### Livelihood & Entrepreneurship:

- Skill training for mechanised sanitation work.
- Capital subsidy (up to Rs 5 lakh) for purchase of sanitation and waste collection vehicles.
- Support for self-employment through sanitation-based micro-enterprises.

### Waste Picker Inclusion (from 2024–25):

- Specific training and PPE kits tailored to dry waste management.
- Capital assistance linked to Dry Waste Collection Centres (DWCCs).
- Awareness campaigns on occupational health and safety

## Secretary General of Lok Sabha & Rajya Sabha

**Why in News ?** The Election Commission has appointed **Rajya Sabha Secretary General P C Mody** as the **returning officer** for the election to the office of the vice president.

**Relevance :** UPSC Pre & Mains

**Prelims :** S G/ RO

**Mains :** GS 2



The **Secretary General** is the **topmost administrative officer** and **procedural advisor** to the Speaker of the Lok Sabha or the Chairman of the Rajya Sabha (Vice-President of India). The position is comparable to a **Cabinet Secretary** in terms of rank and status within the respective House.

### **Secretary General of Rajya Sabha:**

#### **Position:**

- Heads the **Rajya Sabha Secretariat**
- Functions under the control of the **Chairman of Rajya Sabha** (Vice-President of India)

#### **Key Functions:**

- Aids the **Chairman** in conducting the business of the Rajya Sabha
- Advises on **parliamentary rules, precedents, and practices**
- Responsible for scheduling and managing **sessions of Rajya Sabha**
- Supervises the publication of the **Rajya Sabha debates**, questions, and bills
- Controls administrative functioning of the Rajya Sabha Secretariat

#### **Legal Authority:**

- Functions under the **Rules of Procedure and Conduct of Business in Rajya Sabha**

#### **Additional Role:**

- Typically appointed as the **Returning Officer for Vice-Presidential Elections**

#### **Appointment & Tenure**

- Appointed by the **Speaker of Lok Sabha** or **Chairman of Rajya Sabha**
- No fixed tenure; generally held by senior-most officers of the respective secretariat
- Appointment is based on **seniority, experience, and expertise** in parliamentary procedures
- Not directly under the control of the **executive/government**, ensuring **parliamentary independence**.

## **National Sport Tribunal**

**Why in News?** The National Sports Governance Bill, 2025, introduced in the Indian Parliament, seeks to overhaul the country's sports governance framework. With an emphasis on transparency, accountability, and athlete welfare, the bill aims to reform the functioning of national sports bodies, including the powerful Board of Control for Cricket in India (BCCI).

**Prelims : National Paralympic Committee/NSFs/National Sports Tribunal**

**Mains : GS2/ GS 3**

### Key Objectives :

At its core, the bill aspires to instill ethical governance, promote fairness, and strengthen athlete welfare across Indian sports. By addressing longstanding challenges like non-transparent elections, limited athlete involvement, and poor internal accountability, the legislation is intended to align Indian sports administration with international standards of good governance.

### Proposed Institutional Framework:

- The bill envisages the formation of central and regional institutions, including the National Olympic Committee, **National Paralympic Committee**, National Sports **Federations (NSFs)**, and Regional Sports Federations.
- These bodies will oversee specific sporting disciplines, bringing standardisation, consistency, and efficiency to sports governance nationwide.

### Dispute Resolution via National Sports Tribunal:

- One of the landmark features is the establishment of a **National Sports Tribunal**, which will serve as the sole adjudicating authority for disputes related to selection, elections, and other administrative issues within sports federations.
- This mechanism **is expected to reduce judicial backlog** and ensure quicker resolution of grievances outside the traditional court system.

### Governance Modernisation Measures:

The bill introduces comprehensive reforms to democratise sports administration. Key measures include:

- **Standardised election processes** for sports federations
- **Mandatory representation of athletes** in executive bodies
- **Gender inclusivity** in leadership positions
- **Internal grievance redressal mechanisms**
- **Financial transparency requirements** to combat corruption and mismanagement

### Bringing BCCI Under Regulatory Oversight:

- For the first time, the BCCI will be formally recognised as a National Sports Federation under this legislation. While it retains its autonomous status and **is not government-controlled**, the BCCI will now be subject to annual recognition by the **National Sports Board**.
- Importantly, any disputes involving the BCCI must be addressed by the **National Sports Tribunal**, limiting the scope for direct court litigation.

#### Age and Tenure Guidelines for Office Bearers:

- The bill introduces flexibility in leadership eligibility by allowing officials aged over 70 to serve out their current terms.
- It also permits a maximum of three consecutive terms of four years each, with a mandatory cooling-off period of one term before re-election.
- This framework aims to ensure a healthy balance between experienced leadership and the need for renewal.

#### Strengthening Anti-Doping Compliance:

- Complementing the governance reforms, the **National Anti-Doping (Amendment) Bill, 2025** was also tabled.
- This amendment aligns India's anti-doping framework with **World Anti-Doping Agency (WADA)** protocols.
- It guarantees the independence of disciplinary and appellate panels, ensuring fairness and global compliance in doping-related matters.

#### About National Sports Tribunal:

- To address the legal logjam in the sporting ecosystem, the Bill proposes the creation of a National Sports Tribunal (NST).
- Headed by a **Supreme Court judge**
- Will resolve disputes related to elections, selection, and internal administration of NSFs
- Appeals from the NST's decisions will lie **only with the Supreme Court**

#### However, the NST will not cover:

- Disputes arising during Olympic, Asian, or Commonwealth Games
- Matters governed by international federations
- Anti-doping cases, which remain under the National Anti-Doping Agency (NADA)

## Marine Heatwaves

**Why in News?** A major 24-year-long coral reef monitoring study in the Lakshadweep archipelago, conducted by the Nature Conservation Foundation, has revealed a significant 50% decline in coral cover since 1998 due to repeated marine heatwaves driven by climate change.

### **Key Points:**

#### **Study Details:**

- Published in the journal Diversity and Distributions.
- Title: “Local Environmental Filtering and Frequency of Marine Heatwaves Influence Decadal Trends in Coral Composition”.
- Based on long-term monitoring (1998–2022) of coral reefs at Agatti, Kadmat, and Kavaratti atolls in Lakshadweep.

#### **Key Findings:**

- Coral cover declined from 37.24% in 1998 to 19.6% in 2022.
- Represents a ~50% decline in coral reef health over 24 years.

#### **Causes:**

- Repeated marine heatwaves due to **El Niño Southern Oscillation (ENSO)** events in 1998, 2010, and 2016.
- Intensified by global climate change.

#### **Recovery Patterns:**

- Reduced recovery rates after each bleaching event, though coral mortality decreased with successive events.
- Critical recovery period identified: At least six years of bleaching-free conditions are needed for significant coral regeneration.

#### **Local Factors Matter:**

- Recovery varies depending on wave exposure, depth, and other site-specific environmental filters.

#### **Predictive Framework:**

- Study offers a predictive model to identify vulnerable vs. resilient reefs, aiding in conservation planning.

#### **About Marine Heatwaves:**

**Marine heatwaves (MHWs)** are prolonged periods of unusually high sea surface temperatures (SSTs) in a particular ocean region. These events typically last for days to months and can extend over hundreds to thousands of kilometers.

#### **Key Features of Marine Heatwaves:**

##### **Causes of Marine Heatwaves:**

##### **Climate Change:**

- Increases global ocean temperatures, making heatwaves more frequent and intense.

##### **Atmospheric Blocking & High-Pressure Systems:**

- Trap heat near the ocean surface and reduce cooling.

### El Niño Events:

- Trigger large-scale warming in the Pacific, influencing global marine heatwaves.

### Reduced Ocean Mixing:

- Less vertical movement of cold water weakens natural ocean cooling.

### Examples of Marine Heatwaves:

- **Lakshadweep Archipelago:** Repeated heatwaves since 1998 caused ~50% coral decline.
- **The Blob (2013–2016):** A massive Pacific Ocean marine heatwave causing widespread ecological disruption.
- **Great Barrier Reef (Australia):** Severely bleached during marine heatwaves in 2016, 2017, and 2020.

### Possible Solutions / Way Forward:

1. Global climate action to reduce greenhouse gas emissions.
2. Marine Protected Areas (MPAs) to reduce local stressors.
3. Coral restoration projects using heat-resistant species.
4. Early warning systems using satellite and ocean data.
5. Strengthening local governance and community-based adaptation.

## Brihadisvara Temple

**Why in News ?** Prime Minister Narendra Modi visited the Brihadisvara Temple at Gangaikonda Cholapuram, Tamil Nadu, during the Aadi Thiruvathirai festival to pay tribute to Chola emperors Rajaraja Chola and Rajendra Chola I.

**Relevance :** UPSC Pre & Mains

**Prelims :** Brihadisvara Temple/ Rajaraja Chola and Rajendra Chola I.

**Mains :** GS 1

### Tribute to Chola Dynasty's Legacy:

- Prime Minister Modi praised the military and administrative achievements of Rajaraja Chola and Rajendra Chola I.
- He described their reign as a symbol of India's cultural and strategic greatness.
- Modi stated that their era serves as an ancient road map for India to become a developed nation.
- The Prime Minister released a **commemorative coin** in honour of Rajendra Chola I.

### Military and Strategic Contributions:

- Rajaraja Chola built a **powerful naval force**, which was further strengthened by Rajendra Chola I.
- The Chola dynasty conducted successful expeditions, including a significant campaign to the **Gangetic plains**, leading to the establishment of **Gangaikonda Cholapuram** as their capital.
- The Cholas maintained **diplomatic and trade relations** with **Sri Lanka, the Maldives, and Southeast Asia**.

#### **Democratic Innovations of the Cholas:**

- PM Modi referred to the **Kudavolai system**, an early form of electoral democracy used by the Cholas to elect local representatives.
- He acknowledged the dynasty's contributions to **grassroots governance** and administrative decentralisation.

#### **Cultural and Ecological Wisdom:**

- The Cholas developed **extensive water management systems**, including the construction of the **Cholagangam lake**, demonstrating ancient ecological foresight.
- Modi emphasized that **current global discussions on water conservation and ecology** are aligned with practices followed by the Cholas centuries ago.

#### **National Security and Operation Sindoor:**

- Drawing a parallel with the Cholas' strategic mindset, Modi said India today gives **top priority to national security**.
- He cited **Operation Sindoor** as an example of India's **decisive response** to threats against its sovereignty.

#### **Cultural Integration and Preservation Efforts:**

- Modi highlighted initiatives such as **Kashi Tamil Sangamam** and **Saurashtra Tamil Sangamam**, aimed at reinforcing cultural unity across Indian regions.
- He noted that the government has been working in **mission mode** to reclaim India's stolen heritage.
- Since 2014, around **600 ancient artefacts and statues** have been brought back to India, including **36 belonging to Tamil Nadu**.

#### **Statues to Honour the Emperors:**

- PM Modi announced that the **Centre will install grand statues** of Rajaraja Chola and Rajendra Chola I in Tamil Nadu.
- These statues will serve as **symbols of national pride and historical consciousness**.



## Glacial Lake Outburst Floods (GLOFs)

**Why in News?** Nepal recently experienced a catastrophic Glacial Lake Outburst Floods (GLOF) event which caused a flash flood along the Lende river, flowing from Tibet to Nepal, and washed away a China-built friendship bridge.

**Relevance :** Pre & Mains

**Prelims :** GLOF/Related lakes

**Mains :** GS1 (Geography) /GS 3 ( Environment)

**What are GLOFs and Why Are They a Concern?**

Glacial Lake Outburst Floods (GLOFs) are sudden and violent discharges of water from glacial lakes formed due to melting glaciers. These floods can result in widespread destruction downstream, especially in mountainous regions like the Indian Himalayan Region (IHR), where rising temperatures are increasing the risk of such events.

**Recent GLOF Events in Nepal:**

- **July 8, 2025:** A GLOF in Tibet led to flash floods in the Lende River, destroying the Rasuwagadhi bridge in Nepal and disrupting 8% of its hydropower capacity.
- **Other events:**
  - Mustang (July 2025)
  - Humla (May 2025)
  - Solukhumbu (2024)
- **Historic events:**
  - Cirenma Co (1981)
  - Dig Tsho (1985)
  - Tama Pokhari (1998)

Nepal has mitigated risks at lakes like **Imja Tsho and Tsho Rolpa** by draining water through artificial channels.

**Types of Glacial Lakes in the Indian Himalayan Region:**

**Supraglacial Lakes:**

- Form on the surface of glaciers.
- Very prone to melting during the summer months.

**Moraine-Dammed Lakes:**

- Form at the glacier's snout.
- Dammed by loose debris and ice cores, making them highly vulnerable to sudden collapse.

- India has over **28,000 glacial lakes**, with around 7,500 located in high-risk zones above 4,500 metres.

#### **GLOF Risk for India:**

- India's glacial lakes are largely unmonitored due to remoteness, difficult terrain, and short survey windows.
- In recent years, extreme heat has accelerated glacial melt, increasing risks.
- Major events:
  - **Kedarnath disaster (2013)** due to Chorabari GLOF.
  - **Sikkim's South Lhonak GLOF (2023)** that destroyed the Chungthang dam.
- The Teesta riverbed rose significantly after the 2023 flood, reducing its carrying capacity and increasing the likelihood of future flooding.

#### **National Disaster Management Authority (NDMA) Measures:**

##### **Institutional Response:**

- Formation of the **Committee on Disaster Risk Reduction (CoDRR)** to promote risk prevention and preparedness.
- Collaboration with central scientific agencies, research institutions, and states/UTs.

##### **National Programme for GLOF Risk Reduction:**

- Launched with a **\$20 million** investment.
- Initially focused on 56 glacial lakes; now expanded to **195** lakes classified into four risk categories.
- Aimed to scale up further under the **16th Finance Commission** (FY2027–FY2031).

##### **Objectives:**

1. Hazard assessment of each lake.
2. Installation of Automated Weather and Water Stations (AWWS).
3. Establishment of Early Warning Systems (EWS) downstream.
4. Engineering interventions such as water drawdown and flow control.
5. Community engagement for risk awareness and cooperation.

##### **Use of Technology and Science:**

- **SAR Interferometry** to detect slope instability with high accuracy.
- **Bathymetry** to assess water volume in glacial lakes.
- **ERT (Electrical Resistivity Tomography)** to check for ice-core presence under moraine dams.
- **Unmanned Aerial Vehicle (UAV) Surveys** for terrain analysis.
- Real-time monitoring initiated in select lakes in Sikkim, transmitting data every 10 minutes.

### Community Engagement and Operational Challenges:

- Expedition teams have faced challenges such as bad weather and cultural sensitivities.
- Some lakes are considered sacred; community involvement has been essential.
- **ITBP personnel** are being trained to serve as manual early warning providers in remote areas.

### Key Challenges:

- Lack of automated early warning systems in most glacial lakes.
- Limited Indian participation in cryosphere-focused risk innovation and mitigation.
- Insufficient cross-border data sharing, especially with China, affecting early warning mechanisms.

### Conclusion:

India is moving from a reactive to a proactive stance in dealing with **GLOF risks**. The NDMA-led national programme marks a critical step in identifying vulnerable lakes, deploying technology, and engaging local communities. However, to comprehensively manage **GLOF risks**, **greater cross-border** cooperation, technology integration, and expansion of real-time monitoring systems are imperative.

## International Emergency Economic Powers Act (IEEPA)

**Why in News?** The term was recently in news regarding the USA Tariff.

**Relevance :** Pre & Mains

**Prelims :** IEEPA

**Mains :** GS 2

**About IEEPA:** The IEEPA grants the **President of the United States** broad powers to regulate commerce after declaring a **national emergency** in response to any **unusual and extraordinary threat** to the country that originates **outside the United States**.

### Key Provisions:

- The President can **block transactions and freeze assets** to counter the threat.
- The Act allows restrictions on **foreign exchange, imports/exports**, and **property** owned or controlled by a foreign entity.
- IEEPA is commonly used to impose **economic sanctions**, especially during international crises or in matters related to **national security**.

#### Examples of Use:

- Sanctions on countries like **Iran, North Korea, and Russia**.
- Actions against **terrorist organizations, cybersecurity threats, or foreign interference in elections**.

#### Limitations:

- The President must consult with and report to **Congress** regularly.
- The emergency declaration must be renewed annually.
- The powers are not unlimited and must align with constitutional and statutory limitations.

#### Similar Acts in the United States:

##### Trading with the Enemy Act (TWEA) – 1917:

- **Purpose:** Gives the U.S. President powers to restrict trade with countries considered enemies during wartime.
- **Scope:** Applied during both World Wars and the Korean War.
- **Current Status:** Still in effect, but most powers were transferred to **IEEPA after 1977**.
- **Example:** Used against **Cuba (still under some provisions of TWEA)**.

##### USA PATRIOT Act – 2001:

- **Full Name:** Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and **Obstruct Terrorism Act**.
- **Purpose:** Provides tools to combat terrorism, including tracking financial transactions.
- **Use:** To block terrorist financing, impose financial sanctions, and enhance surveillance.

## Depleted Heavy Water (DHW)

**Why in News?** India commissioned its **first-ever private test facility for the upgradation of depleted heavy water**, developed by **TEMA India Ltd.** in collaboration with **BARC and NPCIL**. This **milestone**, under the **Atma-Nirbhar Bharat initiative**, marks a significant step in **private sector participation in India's nuclear energy sector**.

**Relevance :** UPSC Pre & Mains

**Prelims :** PHWR/DHW

**Mains :** GS 3

#### Key Points:

##### First-of-its-Kind Facility in Private Sector:

- Commissioned by **TEMA India Ltd.**
- Built under **technology transfer from BARC and Purchase Order from NPCIL**.

- Focuses on **upgradation of depleted heavy water**, a critical process for nuclear reactors.

#### **Strategic Advancement in Nuclear Self-Reliance:**

- Previously, testing of such components was limited to BARC facilities.
- This private facility expands testing capacity and reduces dependence on government labs.

#### **High-Tech Nuclear Component Manufacturing:**

- First validated batch of **eight Distillation Column sections** flagged off.
- Includes **activated phosphor bronze modules** used in **Pressurized Heavy Water Reactors (PHWRs)**.
- These will be deployed in:
  - RAPP Unit 8
  - GHAVP Units 1–4
  - KAIGA Units 5 & 6

#### **Alignment with Atma-Nirbhar Bharat:**

- Enhances indigenous capability in high-tech, strategic sectors.
- Reduces reliance on imports and foreign testing infrastructure.
- Encourages public-private collaboration in nuclear energy.

#### **National Energy Security and Private Sector Entry:**

- Promotes resilience in India's nuclear supply chain.
- Builds capacity for private firms in sensitive, high-stakes technology areas.
- Demonstrates trust of state institutions (NPCIL/BARC) in private players.

#### **Ceremonial & Symbolic Milestones:**

- Included traditional pooja, tree plantation, and ceremonial dispatch.
- Symbolises India's private sector formally entering the advanced nuclear component ecosystem.

#### **About Depleted Heavy Water (D<sub>2</sub>O):**

##### **What is Heavy Water?**

- **Heavy Water (D<sub>2</sub>O)** is water in which both hydrogen atoms are replaced with **deuterium**, a stable isotope of hydrogen with one neutron.
- It is used as a **moderator and coolant** in **Pressurized Heavy Water Reactors (PHWRs)** to slow down neutrons for efficient nuclear fission.

##### **What is Depleted Heavy Water?**

- **Depleted heavy water** refers to heavy water that has **lost part of its deuterium content** due to prolonged use in a reactor.

- As it becomes less effective as a moderator, it must be **reprocessed or upgraded** to restore its **high deuterium concentration (99.8% or more)**.

## National Investigation Agency (NIA)

**Why in News?** The National Investigation Agency (NIA) submitted two sealed reports to the Manipur High Court regarding the investigation into the abduction and killing of six Meitei women and children in Jiribam, Manipur, in November 2024, due to ongoing public and judicial scrutiny

**Relevance :** Pre & Mains

**Prelims :** NIA

**Mains :** GS 3 Internal Security

**Establishment and Background:**

- The National Investigation Agency (NIA) was set up after the 26/11 Mumbai terror attacks in 2008. It was established through the National Investigation Agency Act, 2008. The agency formally came into existence on 31st December 2008 and began functioning in 2009.

**Objective and Functions:**

- The NIA is the central counter-terrorism law enforcement agency in India. It is mandated to investigate offences that affect the sovereignty, integrity, and security of India. These include:
  - Threats to nuclear and atomic facilities
  - Terror financing and infiltration
  - Smuggling of arms, narcotics, and counterfeit currency
  - Crimes under international treaties and UN conventions

**Organisational Features:**

- Headquartered in New Delhi, the NIA can investigate terror-related offences across states without seeking special permission from state governments, based on orders from the Ministry of Home Affairs.

**Jurisdiction:**

The NIA's jurisdiction extends to:

- The entire territory of India
- Indian citizens outside the country
- Government officials serving abroad



- Individuals on Indian-registered ships and aircraft
- Foreign nationals committing offences against Indian citizens or interests

#### **Scheduled Offences under the NIA Act:**

The Schedule of the Act lists specific laws under which NIA can take up investigations. These include:

- Unlawful Activities (Prevention) Act (UAPA)
- Explosive Substances Act, 1908
- Atomic Energy Act, 1962
- Anti-Hijacking Act
- SAARC Convention (Suppression of Terrorism) Act
- Suppression of Unlawful Acts Against Maritime Navigation
- Weapons of Mass Destruction Prohibition Act
- Indian Penal Code (IPC), Arms Act, and Information Technology Act
- Narcotic Drugs and Psychotropic Substances (NDPS) Act

#### **Process of Taking up a Case:**

##### **Through State Governments:**

- Under **Section 6 of the NIA Act**, states may refer any case involving scheduled offences to the Central Government. Upon examination, the Centre can direct the NIA to take over the investigation.

##### **Suo Motu by the Centre:**

- The Central Government can **independently order an NIA probe** if a scheduled offence is suspected. The Centre can also authorise NIA to investigate offences committed outside **India if they affect national interest**.

#### **Prosecution and Sanction Requirements:**

- For prosecuting under UAPA and certain other laws, the NIA requires sanction from the Central Government. This sanction is based on recommendations from an authority constituted under **Section 45(2) of the UAPA**.

#### **Special Provisions and Powers:**

- An **exclusive Left Wing Extremism (LWE)** Cell within NIA handles terror financing cases linked to Naxal groups. If any non-scheduled offence is linked to the main scheduled offence under investigation, NIA can investigate that as well. All cases after investigation are tried in **NIA Special Courts**.

#### **NIA Special Courts:**

- Special Courts are constituted by the Central Government **under Sections 11 and 22 of the NIA Act, 2008**. The judge is appointed by the Centre in consultation with the Chief

Justice of the respective High Court. These courts have powers equivalent to **Sessions Courts under the Criminal Procedure Code, 1973**.

- In special cases, the Supreme Court can transfer a case to another Special Court within or outside the state. Similarly, the **High Court** can transfer a case to any other Special Court within the state.

#### **2019 Amendments to the NIA Act:**

- The Act was amended to strengthen the NIA's powers and improve the pace and scope of investigations.

#### **Extra-territorial Jurisdiction:**

- NIA can now investigate offences committed outside **India if they affect Indian citizens or interests**.

#### **Expansion of Scheduled Offences:**

New offences were added under NIA's ambit, including:

- Human trafficking
- Counterfeit currency
- Manufacturing or selling prohibited arms
- Cyber-terrorism
- Explosives-related crimes

## **Cautious optimism**

**Why in News?** The Ministry of Finance, in its latest Monthly Economic Review for June 2025, stated that **India's macroeconomic fundamentals remain resilient** despite global headwinds. However, it **flagged concerns over slow credit growth** and global economic uncertainties that may **pose risks to the economic recovery**. It described the situation as one of "**cautious optimism**".

**Relevance :** Pre & Mains

**Prelims :** What is Cautious Optimism?

**Mains :** GS 3

#### **Key Points from the Article:**

##### **Cautious Optimism by Finance Ministry:**

- India's economy shows resilience due to strong fundamentals.

- Risks persist due to global trade tensions, geopolitical volatility, and external uncertainties.

#### **Credit Growth Slowing:**

- Despite RBI's monetary easing and private investment efforts, credit growth is slowing.
- This may indicate **weak borrower sentiment** and **risk-averse lending**.
- Preference for bonds over loans also cited as a reason.

#### **Global Factors Causing Drag:**

- US slowdown, especially with Q1 contraction of 0.5%, can reduce global demand.
- Ongoing uncertainty in US monetary policy and global supply chains adds pressure.

#### **Room for More Monetary Easing:**

- Given **comfortable inflation trends**, RBI has space to **continue cutting interest rates**.
- RBI has already pumped liquidity since Dec 2024; MPC cut repo rates multiple times.

#### **Impact on Investment:**

- Weak credit and private investment appetite could restrict acceleration in economic momentum.

#### **Real vs. Nominal Growth:**

- While **real terms** (inflation-adjusted) look better, **nominal momentum** remains soft.

#### **Inflation, Oil & Agri Prices Outlook:**

- Inflation is under control.
- Ministry expects stable agricultural prices and crude oil trends in near future.

#### **Nominal Growth:**

Growth measured at **current market prices** without adjusting for inflation.

- It reflects the combined effect of:
  - Actual increase in production (real growth) +
  - Increase in prices (inflation).

### What is Cautious optimism?

**Cautious optimism** is a phrase used to describe a **hopeful outlook that is tempered by awareness of possible risks or problems**. It means being **positive about the future**, but **remaining careful and alert** in case things don't go as expected.

**Cautious optimism = Hope + Carefulness**

**In Economic Context (like in the article):**

When the Finance Ministry says India is a picture of "cautious optimism," it means:

- The government is **hopeful about India's economic growth** (due to strong fundamentals like inflation control, stable macro indicators, etc.).
- But at the same time, it is **aware of risks** like:
  - **Slow loan growth**
  - **Global slowdown**
  - **Geopolitical tensions**
  - **Weak private investment**

## 'Living Wage' framework

**Why in News ?** The Government of India is working on introducing a **'living wage' framework**, which is likely to **improve female workforce participation**, particularly among low-income women. The plan aims to tackle **low wages** and **high costs** that currently discourage women from joining or staying in the formal workforce.

**Relevance :** Pre & Mains

**Prelims :** Blue/Grey work force/LFPR

**Mains :** GS 3

**Key Points from the Article:**

**Low Wages Holding Back Women**

- **54%** of blue- and grey-collar women employees are unhappy with their pay.
- **80%** earn **less than Rs 20,000/month**, making formal employment unattractive.
- Income level is a **make-or-break** factor for women entering or staying in jobs.

**Cost Burden and Responsibilities:**

- Women face **higher entry costs** into the workforce, such as transportation and childcare.
- **Low pay + high costs** push women out of work or discourage entry.

### Minimum Living Wage in Focus:

- Government is studying the idea of a **"living wage"**—a wage that covers **minimum decent living** including food, clothing, housing, education, and healthcare.
- The **International Labour Organization (ILO)** has defined this standard.
- A report was submitted to the **Labour Ministry** on July 24.

### Survey Findings by Qness Corp:

- Survey of 10,000+ women in 11 cities:
  - 80% earn less than Rs 20,000/month.
  - Only 21% of women earn more than Rs 25,000/month.
  - Women face unequal hiring practices; they account for only **27%** of job interviews.
  - Sectors like **IT, manufacturing, and healthcare** show promise for higher wages.

### Gender Pay Gap & Retirement Benefits:

- Women are often excluded from **social security and retirement benefits**.
- A "living wage" would help formalize women's jobs and improve their access to benefits.

### Long-Term Impact:

- A living wage could:
  - Enhance **female labour force participation rate (LFPR)** (currently just 37% in India).
  - Improve **productivity, retention, and economic equity**.

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# Facts for Prelims

## Race to Preserve Ancient Ice Memory

A team of Arctic researchers is preparing to drill deep into the ice to collect and safeguard samples of ancient frozen layers. The goal is to preserve valuable environmental data before these ice layers are lost due to rapid climate change.

### What Makes Ancient Ice Valuable?

- Deep ice cores serve as time capsules, preserving chemical signatures and atmospheric data from hundreds of years ago.
- These ice samples help scientists understand historical climate trends and shifts in environmental conditions.
- Research shows the Arctic region is heating up at a rate **2 to 4 times faster** than the global average, increasing the urgency to secure this ice record.

### How will the Ice be Collected and Stored?

- Ice will be extracted in long cylindrical cores, reaching depths of **up to 125 metres**, which contain ice formed **over the last 300 years**.
- One batch of samples will be analyzed immediately to study the past climate.
- Another set will be transported to **Antarctica**, where it will be stored in an "**ice memory vault**" beneath the snow to ensure preservation for future scientific use.

### Why it Matters for the Future?

- Preserving ancient ice helps us prepare for future climate scenarios.
- It ensures that even as glaciers disappear, the **climate records they contain are not lost forever**.

## Green Debt

**Green Debt** refers to financial instruments, such as bonds or loans, issued to raise funds specifically for projects that have positive environmental impacts, particularly those addressing climate change, renewable energy, energy efficiency, or sustainable infrastructure.

### What is Green Debt?

Green debt primarily includes **green bonds** and **green loans**:



- **Green Bonds:** Debt securities issued by governments, corporations, or institutions to finance projects like solar energy, wind farms, clean transportation, or afforestation. These bonds are labeled “green” because the proceeds are earmarked for environmentally beneficial projects, often aligned with frameworks like the Green Bond Principles.
- **Green Loans:** Loans provided by banks or financial institutions for specific green projects, such as energy-efficient infrastructure or sustainable agriculture, with terms tied to environmental performance.

## Fuel Gas Desulphurization (FGD)

**Why in News?** Fuel Gas Desulphurization (FGD) has become increasingly important as India enforces stricter emission norms for coal-based power plants and industries.

- FGD systems are being installed to control Sulphur Dioxide (SO<sub>2</sub>) emissions, a major cause of air pollution and acid rain.

**What is FGD?**

Fuel Gas Desulphurization (FGD) is a process used to remove Sulphur Dioxide (SO<sub>2</sub>) from the exhaust gases of:

- Coal-fired power plants
- Industrial facilities using fossil fuels

SO<sub>2</sub> is a harmful gas that causes:

- Acid rain
- Respiratory problems
- Damage to crops and monuments

**Why is FGD Important?**

- India’s thermal power plants burn high-sulphur coal, leading to heavy SO<sub>2</sub> emissions.
- To comply with environmental regulations (MoEFCC & CPCB norms), FGD systems are essential.
- It helps India achieve goals under the National Clean Air Programme (NCAP).

## 'Non-Veg Milk'

**Why in News?** The India-US trade negotiations have stalled primarily due to a disagreement over dairy imports. US President Donald Trump set an August 1 deadline for finalizing trade deals, warning of potential tariffs if no agreement is reached.

- **India refuses to compromise on dairy imports**, citing religious, cultural, and economic concerns.

**Relevance :** UPSC Pre & Mains

**Prelims :** GMO Cow

**Mains :** GS 3

**What is 'Non-Veg Milk'?**

- **'Non-veg milk'** refers to milk from cows that are fed with **animal-based products** like:
  - Meat and bone meal
  - Blood meal
  - Parts of pigs, horses, fish, chicken, etc.
- In the US, **animal-derived proteins are often used in cattle feed** to cut costs and improve yield.
- This practice is **unacceptable in India**, where cows are considered sacred and milk is central to **daily religious rituals**.

**India's Red Line: Certification Demand:**

- India demands **strict veterinary certification** ensuring:
- Imported dairy comes from cows **never fed with animal-based feeds**.
- The Department of Animal Husbandry & Dairying mandates:
- **Animals must not be fed with meat**, bone meal, blood meal, or tissues of ruminant or porcine origin."

**Religious and Cultural Sensitivities:**

- About **38% of India's population is vegetarian** (World Atlas, 2023).
- Milk and ghee are crucial in **Hindu religious practices**.
- Allowing imports of dairy linked to animal feed contradicts India's **cultural values and religious sentiments**.

**Economic Concerns: Impact on Indian Dairy Farmers:**

- India is the **world's largest producer and consumer of milk** (239.30 million tonnes in 2023-24).
- The **dairy sector supports 8 crore livelihoods**, mostly small-scale farmers.
- **State Bank of India (SBI) report findings:**
  - Opening dairy to US imports could lead to **annual losses of Rs 1.03 lakh crore**.
  - **Milk prices may drop by 15%**, harming farmer incomes.
  - US dairy receives **heavy subsidies**, making competition unfair.

**Contribution to Rural Economy:**

- Dairy contributes about **2.5-3% of India's Gross Value Added (GVA)**.

- Total value estimated at **Rs 7.5-9 lakh crore**.
- For India, protecting the dairy sector is **both an economic and political priority**.

#### **Conclusion:**

- The **dairy issue remains a non-negotiable red line for India**.
- Until the US agrees to India's terms on dairy certification, the broader **India-US trade deal is unlikely to move forward**.

## **Liberalised Remittance Scheme (LRS)**

The **Liberalised Remittance Scheme (LRS)** is a foreign exchange policy introduced by the **Reserve Bank of India (RBI)** in 2004 under the **Foreign Exchange Management Act (FEMA), 1999**. It allows **resident individuals** in India, including minors, to freely remit up to **USD 250,000 per financial year (April to March)** for permissible **current or capital account transactions**, or a combination of both. The scheme simplifies cross-border transactions while ensuring compliance with regulatory guidelines. Below is a comprehensive overview:

#### **Key Features of the LRS:**

##### **Purpose:**

- The LRS was designed to ease restrictions on foreign exchange transactions, enabling Indian residents to send money abroad for various purposes like education, travel, investments, medical treatment, and gifting.
- It promotes financial inclusivity by allowing access to global opportunities.

##### **Eligibility:**

**Resident individuals** (as defined under FEMA, 1999), including minors (through guardians), are eligible.

**Non-eligible entities:** Corporations, partnership firms, Hindu Undivided Family (HUF), and trusts cannot use LRS.

**Non-Resident Indians (NRIs)** are not eligible, as they cannot maintain savings accounts in India. However, NRIs can transfer funds from NRO (up to USD 10,000), NRE, or FCNR accounts under separate regulations.

##### **Remittance Limit:**

- Up to **USD 250,000** per financial year per individual.
- The limit applies to all transactions combined, tracked via the individual's **Permanent Account Number (PAN)**.

## Coin DCX

**Why in News ?** The CoinDCX recently faced significant \$44 million (around Rs 379 crore) loss due to a sophisticated server breach, marking a major incident for one of India's leading cryptocurrency exchanges.

### About CoinDCX:

- It is one of India's leading cryptocurrency exchanges, founded in 2018. It has over 16 million registered users and handles significant trading volumes, with Bitcoin and Ethereum leading trades.
- The platform **suffered a \$44 million security** breach on July 19, 2025, due to a sophisticated server attack on an internal operational account used for liquidity provisioning, but assured that customer funds remain **100% safe and unaffected**, with losses absorbed by its treasury reserves.

### Important cryptocurrency exchanges similar to CoinDCX:

- **WazirX:** A leading Indian exchange offering a wide range of cryptocurrencies, P2P trading, and staking, with a focus on user accessibility.
- **CoinSwitch:** Known for its beginner-friendly interface, it aggregates prices from various exchanges and supports over **250 cryptocurrencies**.
- **ZebPay:** One of the oldest Indian exchanges, it provides secure trading with features like crypto lending and cold wallet storage for **98% of funds**.
- **Mudrex:** Offers pre-built coin sets and automated rebalancing, catering to investors with a focus on simplicity and security.
- **Binance:** A global leader with extensive cryptocurrency options, lower fees, and advanced trading tools, though it operates internationally.

## Net Interest Margin (NIM)

**Why in News ?** DBI Bank Ltd. has announced its financial results for the first quarter ended June 30, showing:

- **Net profit rose by 17%** year-on-year to **Rs 2,007 crore**.
- However, the **Net Interest Income (NII)** fell from **Rs 3,233 crore** (last year) to **Rs 3,166 crore**.
- The **Net Interest Margin (NIM)** declined from **4.18%** to **3.68%**.

This performance reflects the **bank's rising profitability despite pressure on core lending margins**, a trend relevant for financial markets and the banking sector.

**What is Net Interest Margin (NIM)?**

**Net Interest Margin (NIM)** is a key profitability indicator for banks and NBFCs.

It shows how effectively a bank is earning from its core business of **lending** compared to its **cost of funds (deposits or borrowings)**.

**Formula:**

$$\text{NIM} = \frac{\text{Interest Earned} - \text{Interest Paid}}{\text{Average Interest-Earning Assets}} \times 100$$

**Simplified Meaning:**

- **Interest Earned** → From loans, bonds, etc.
- **Interest Paid** → On savings, fixed deposits, etc.
- **Interest-Earning Assets** → Loans, investments, etc.

**What is Net Interest Income (NII)?**

- **Net Interest Income (NII)** is the **difference between the interest a bank earns on its loans and investments (assets) and the interest it pays on deposits and borrowings (liabilities)**.

**Formula:**  $\text{NII} = \text{Interest Earned} - \text{Interest Paid}$

## Risk-Weighted Assets (RWA)

**Risk-Weighted Assets (RWA)** are a **measure used in banking to assess the risk associated with a bank's assets, determining the minimum capital it must hold to cover potential losses**.

Here's a concise overview:

- **Definition:** RWA is the total value of a bank's assets, adjusted for their risk levels. Assets with higher risk (e.g., loans to individuals) are assigned higher weights, while safer assets (e.g., government bonds) have lower weights.
- **Purpose:** RWAs are used to calculate a bank's capital adequacy ratio, ensuring it has enough capital to absorb losses and remain solvent, as required by regulations like Basel III.

**Calculation:**

- Assets are categorized (e.g., loans, bonds, derivatives).
- Each category is assigned a risk weight (e.g., 0% for cash, 100% for corporate loans, higher for riskier assets).
- $\text{RWA} = \text{Sum of (Asset Value} \times \text{Risk Weight) for all assets.}$

- Example: A \$100 loan with a 75% risk weight contributes \$75 to RWA.

## Biostimulants

**Why in News?** Union Agriculture Minister Shivraj Singh Chouhan has written to Chief Ministers to immediately stop the “*forced tagging*” of nano-fertilisers or **biostimulants** with conventional fertilisers. This comes after farmers complained that subsidised fertilisers like urea and DAP were being sold only if biostimulants were also purchased.

**About Biostimulants :**

- Biostimulants are **natural or synthetic substances** that enhance plant growth and productivity by improving nutrient efficiency, stress tolerance, and soil health. They **do not directly provide nutrients**, unlike fertilisers, but aid in better nutrient uptake and crop performance.

**Examples include:**

- Seaweed extracts
- Humic substances
- Amino acids
- Microbial inoculants

## Joddarna

**Why in News?** A woman from the **trans-Giri region of Himachal Pradesh**, Sunita Chauhan, recently married **two brothers**, Pradeep and Kapil Negi. This has drawn national attention because it revives discussion around **polyandry**—a practice locally known as ‘*joddarna*’. The practice is common among the **Hatti tribal community**, which was recently granted **Scheduled Tribe (ST) status in 2022**.

**About ‘Joddarna’ – The Polyandry Tradition in Himachal Pradesh**

‘Joddarna’ is a **traditional polyandrous marriage practice** followed by certain tribal communities in the **Trans-Giri region of Himachal Pradesh**, especially among the **Hatti tribe**.

**Key Features of Joddarna:**

**Meaning:**

- ‘Joddarna’ literally translates to “*joining together*” in local parlance.
- It refers to **one woman being married to multiple brothers** (fraternal polyandry).

**Communities Practicing It:**



- Predominantly seen among **Hatti tribes** in **Sirmaur district** and adjoining regions of Himachal Pradesh.
- Linked to **customary tribal laws** and practices passed down over generations.

#### **Social and Economic Logic:**

- Aimed at **preserving undivided family land** and **limiting inheritance fragmentation**.
- Prevents **division of agricultural holdings** among siblings.
- Promotes **family unity and resource sharing**.
- It is considered to **protect women** by giving them support from multiple male family members.

#### **Cultural Legitimacy:**

- Though it lacks formal legal recognition under the **Hindu Marriage Act**, it enjoys **customary protection** under **tribal traditions**.
- Validity of such customs depends on them being **ancient, certain, and reasonable** as per constitutional standards.

## **The Paika Rebellion**

The Paika Rebellion is in the news because former Odisha Chief Minister Naveen Patnaik expressed concern over its omission from the NCERT's new Class 8 history textbook.

#### **About the Paika Rebellion:**

- It was an armed **uprising in 1817 in Odisha**, India, led by the Paikas, a class of traditional land-owning militia, against **British East India Company rule**.
- Triggered by oppressive land revenue policies, exploitation, and the disbandment of the **Paika militia**, the rebellion began under the leadership of **Bakshi Jagabandhu Bidyadhar, the commander of the King of Khurda**.
- The Paikas, supported by local peasants and zamindars, attacked British symbols of authority, including the British garrison at Khurda. Though initially successful, the rebellion was suppressed by the **British by 1818**. It is considered one of the early resistance movements against colonial rule in India.

#### **Other Rebellions in Orisaa:**

**Gajapati Rebellion (1804-1817)** - This was an early resistance in the Khurda region led by the **Gajapati rulers** and local chieftains against British annexation and revenue policies, setting the stage for the Paika Rebellion.

**Khurda Rebellion (1817-1818)** - Closely related to the Paika Rebellion, this uprising involved the people of Khurda, led by figures like **Jayi Rajguru**, against British control after the deposition of the **Raja of Khurda**. It merged into the larger Paika movement.

**Bhitara Paika Rebellion (1835-1837)** - A lesser-known uprising by the Paikas and local tribals in the interior regions of Odisha, protesting British land settlements and taxation, though it was quickly suppressed.

## Westarctica

**Why in News ?** Recently a man, Harshvardhan Jain **was arrested by the Uttar Pradesh Special Task Force (STF)**. He had been running a fake 'Westarctica' embassy from a rented house in Kavi Nagar, Ghaziabad, Uttar Pradesh.

**What is Westarctica?**

- Westarctica is not a real country.
- It was created in 2001 by an American named Travis McHenry, who laid claim to an uninhabited part of Antarctica.
- It has a website, a self-proclaimed "Grand Duke," and a symbolic system of nobility.
- However, it is not recognised by the United Nations, the Indian government, or any official authority.

## The "Great Bend" & Medog County

- The "Great Bend" is a dramatic geographical turn in the **Yarlung Zangbo River** (the upper stream of the Brahmaputra) where the river **takes a U-turn** around the **Namcha Barwa mountain** (one of the easternmost peaks of the Himalayas).
- This occurs **just before** the river exits **Tibet** (China) and enters **Arunachal Pradesh** (India), where it is called the **Siang River**, and later becomes the **Brahmaputra** in Assam.

**Strategic Importance:**

The Great Bend is **crucial** for India because:

- It lies **very close to the Line of Actual Control (LAC)** between India and China.
- **Control over the river** at this point gives China significant leverage to **alter water flow** downstream into India and Bangladesh.
- It is a **sensitive ecological and hydrological zone**.



### Medog County (also called Motuo or Metok), Tibet (China):

- Medog County is located in the Nyingchi Prefecture of the Tibet Autonomous Region (TAR) of China.
- It is the **last county in Tibet** through which the **Yarlung Zangbo** flows before entering Indian territory.
- The area is **mountainous, remote, and ecologically rich**, but it is also being developed aggressively by China for strategic and hydropower purposes.

### Hydropower Plans:

- China has **planned a massive hydropower project** in this region, making use of the **steep gradient** and **high river flow** at the Great Bend.
- The project will potentially generate **60,000 MW**, making it the **largest hydroelectric power station in the world** upon completion.

## Blue- and Grey-Collar Women Employees

### Who are they?

- **Blue-collar workers:** Typically engage in **manual labor** or skilled trades (e.g., factory workers, drivers, plumbers).
- **Grey-collar workers:** Occupy roles **between blue- and white-collar** jobs, often in **services** (e.g., healthcare aides, retail staff, security, delivery personnel).
- Blue- and grey-collar women employees face **systemic wage inequality, hiring bias, and lack of social protection**. The government's move toward a **living wage policy** could help bring **more of these women into formal employment**, improving their livelihoods and contributing to inclusive economic growth.

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