

## Contents

GS Paper 2 – International Relations .....	3
GS Paper 2 – Governance, Constitution, Polity, and Social Justice.....	47
GS Paper 3 – Environment, Biodiversity, and Disaster Management .....	130
GS Paper 3 – Economic Development .....	161
GS Paper 3 – Security Issues .....	207
GS Paper 3 – Infrastructure.....	212
GS Paper 3 – Science and Technology .....	216
GS Paper 1 – Indian Heritage and Culture, History, and Geography of the World and Society .....	236
GS Paper 2 – Education .....	249
GS Paper 1 – Geography .....	250
GS Paper 2 – Health .....	257





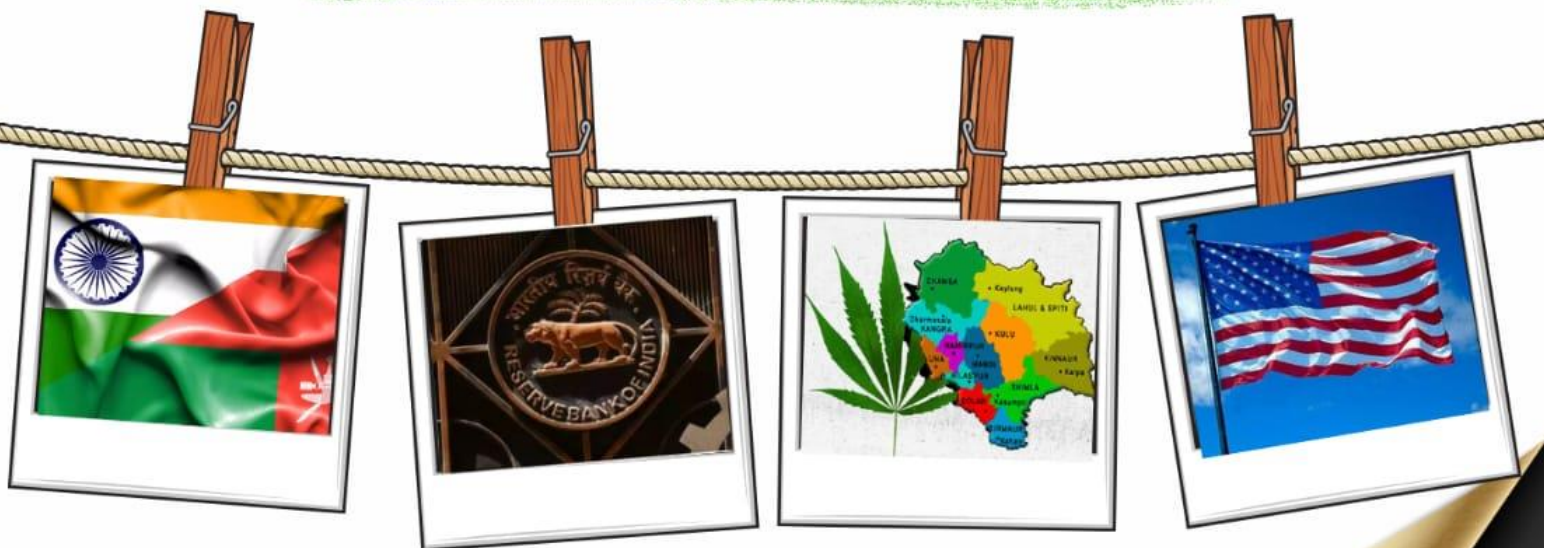
# Monthly Current Affairs



## To The Point

by Dhananjay Gautam

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### India's Diplomatic Engagements: A Strategic Overview

**Context:** 2024 witnessed a flurry of **incoming and outgoing high-level visits**, with India focusing on addressing **global insecurity** and **regional shocks**, particularly in its neighborhood.

#### Key Highlights of External Relations:

##### 1. China: Negotiating Peace at the Border

- The **disengagement negotiations** at the **Line of Actual Control (LAC)** were among the most challenging diplomatic efforts.
- A historic **Modi-Xi meeting**, the first in five years, marked a turning point in bilateral ties.

##### 2. Strengthening Ties with France: French President **Emmanuel Macron** graced India's **Republic Day celebrations**, underscoring the robust **Indo-French partnership**.

##### 3. Breakthrough in European Free Trade: India signed its first trade agreement with Europe through the **India-European Free Trade Association** deal, opening new avenues for economic collaboration.

##### 4. Neighborhood Diplomacy:

- High-level visits from leaders of **Bhutan, Sri Lanka, and the Maldives** enhanced regional cooperation.
- External Affairs Minister **S. Jaishankar's visit to Pakistan** for the **SCO summit** was a pivotal moment in regional diplomacy.



#### Challenges India Faced in 2024:

- Strain with Bangladesh:** Political upheaval in Bangladesh following **Prime Minister Sheikh Hasina's estrangement** posed significant challenges for India's neighborhood policy.
- Deteriorating Canada Relations:** Allegations of Indian involvement in the **Nijjar killing** soured ties with **Prime Minister Justin Trudeau's government**, creating diplomatic tensions.
- Complex U.S. Dynamics:** The **U.S. Department of Justice's indictments** against the Adani Group and an Indian official complicated the otherwise pro-India stance of the U.S. administration.

#### Navigating Global Conflicts:

- Russia-Ukraine Crisis:** **Prime Minister Modi's visits** to both **Russia** and **Ukraine** sparked speculation about India's potential role as a mediator.
- Balancing in the Israel-Palestine Conflict:** India adopted a balanced approach, calling for an end to **civilian casualties**, while taking a nuanced stance on **UN resolutions** addressing Israel's actions in Gaza.
- West Asian Relations:** Multilateral frameworks like **IMEC** and **I2U2** encountered obstacles, prompting India to engage **bilaterally** with **West Asian nations**.

#### Future Outlook: 2025 and Beyond:

##### 1. U.S. Relations:

- External Affairs Minister **S. Jaishankar's visit to Washington** and interactions with the **Trump administration** highlight the focus on bolstering ties.
- President Trump** is expected to visit India for the upcoming **Quad Summit**.

##### 2. Strengthening Ties with Iran: A ministerial visit from **Iran** is anticipated to mark the start of deeper engagements in **2025**.

##### 3. Russia's Renewed Focus: **Russian President Vladimir Putin** is scheduled to visit Delhi in early 2025, his first visit since the onset of the Russia-Ukraine conflict.

##### 4. Republic Day 2025: **Indonesian President Prabowo Subianto** will be the chief guest, reflecting India's commitment to deepening ties with Southeast Asia.



**Key Challenge Ahead:** The main hurdle for India's foreign policy in **2025** will be to navigate an era of **global uncertainty** while adapting to the rapidly evolving geopolitical landscape. This dynamic and multifaceted approach underscores India's growing role as a pivotal player on the global stage.

## Two Years of India-Australia Economic Cooperation and Trade Agreement (Ind-Aus ECTA)

**Context:** The **India-Australia Economic Cooperation and Trade Agreement (Ind-Aus ECTA)** recently marked its **two-year milestone**, creating significant opportunities for **MSMEs, businesses, and employment** in both nations.

### India-Australia Economic Cooperation and Trade Agreement (Ind-Aus ECTA):

#### 1. Overview:

- The **Ind-Aus ECTA** was established to provide a robust **institutional mechanism** for fostering and enhancing trade between the two countries.
- It came into force on **29 December 2022**.

#### 2. Core Features:

- **Australia's Preferential Access:**
  - Offers **100% tariff-free market access** on all lines, benefiting India's **labor-intensive export sectors** like **textiles, leather, and jewelry**.
- **India's Preferential Access:**
  - Provides preferential access to **over 70% tariff lines**, focusing on Australian exports such as **coal, mineral ores, and wine**.

### Achievements under Ind-Aus ECTA:

#### 1. Trade Growth:

- **Bilateral merchandise trade** grew from **USD 12.2 billion (2020-21)** to **USD 24 billion (2023-24)**.
- India's **exports to Australia** rose by **14%**, showcasing strong performance in **textiles, chemicals, agriculture, and new exports** like **gold-studded diamonds** and **turbojets**.

#### 2. Utilisation of Trade Benefits:

- **Export Utilisation Rate:** 79% after two years.
- **Import Utilisation Rate:** 84%.
- These rates highlight how effectively businesses have leveraged trade benefits, reflecting **procedural efficiency** and operational success.

#### 3. Supporting Key Sectors:

- Indian industries benefited from the import of **raw materials** like **metalliferous ores, cotton, and wood**.
- Sectors like **electronics and engineering** remain untapped and hold significant potential for future growth.

### India-Australia Economic Cooperation:

#### 1. A Strategic Partnership:

- Australia is a key **trade and strategic partner** for India.
- Both nations are members of multilateral initiatives like:
  - **Indo-Pacific Economic Forum for Prosperity (IPEF)**.
  - **Trilateral Supply Chain Resilience Initiative (SCRI)** with Japan.







## 2. Surge in FDI:

- **FDI from Australia** reached **\$307.2 million** during January-September 2023, a **sevenfold increase** from 2022.
- Notable growth in **consultancy services**, with investments rising from **\$0.15 million** to **\$248 million**.

## 3. Trade Rankings:

- India became Australia's **9th largest trading partner** in FY23, while Australia ranked as India's **13th largest trading partner**.
- Trade is projected to exceed **\$45-50 billion** by 2035.

## Future Plans for Economic Integration:

### 1. Strengthening the Indo-Pacific Vision:

- Both nations are committed to a **resilient, inclusive, and open Indo-Pacific** region.
- Active collaboration in **QUAD, IPEF, and SCRI** initiatives enhances regional cooperation.

### 2. Advancing CECA Negotiations:

- Talks for a **Comprehensive Economic Cooperation Agreement (CECA)** aim to build on ECTA outcomes and foster deeper **economic integration** in strategic sectors.
- The goal is to achieve **AUD 100 billion bilateral trade** by 2030.

## Conclusion:

India and Australia have made remarkable progress in strengthening their **economic partnership**, leveraging the opportunities provided by the **Ind-Aus ECTA**.

- **Investor-friendly policies** and **reforms** have positioned India as a preferred destination for Australian businesses.
- Together, the two nations are set to elevate their partnership, contributing to **mutual prosperity** and a more **dynamic global economy**.

India and Australia's journey toward deeper cooperation marks a promising chapter in global trade and strategic collaboration.

## Quad Reaffirms Commitment to a Free and Stable Indo-Pacific

**Context:** In a joint statement commemorating two decades of cooperation, the **Quad nations—India, the U.S., Australia, and Japan**—renewed their dedication to ensuring a **free, open, and stable Indo-Pacific region**. This milestone reflects the strategic importance of collaboration among these democracies in addressing regional challenges.



## Key Highlights of the Joint Statement:

### Support for ASEAN Unity and Centrality:

- The Quad underscored its **unwavering support** for the **Association of Southeast Asian Nations (ASEAN)**, recognizing its pivotal role in the region's security and development.
- Members endorsed the **ASEAN Outlook on the Indo-Pacific (AOIP)** as a guiding framework for fostering cooperation and addressing shared challenges.

### Focus on Humanitarian Assistance and Disaster Relief (HADR):



- The Quad emphasized its efforts in **disaster preparedness** and providing **rapid, life-saving aid** in times of crises.
- Continued support in **2024** highlights the group's proactive approach in building resilience across the Indo-Pacific.

### What is the Quadrilateral Security Dialogue (Quad)?

- **Informal Alliance:** A strategic grouping of **India, the U.S., Australia, and Japan**, aimed at maintaining peace and promoting shared values in the **Indo-Pacific region**.
- **Origin:** Initially formed after the **2004 Indian Ocean tsunami** to coordinate disaster relief efforts.
- **Resurgence:** After being formalized in 2007 by **Japan's former PM Shinzo Abe**, the alliance became dormant and was revived in **2017** to counterbalance growing regional challenges, particularly China's influence.

### Strategic Importance of the Quad:

#### Act East Policy and Maritime Security:

- For India, the Quad reinforces its **Act East policy**, emphasizing deeper connections with **East Asian nations**.
- It strengthens **maritime security cooperation**, ensuring the safety of key trade routes and adherence to international laws.

#### Counterbalancing Regional Hegemony:

- The Quad is a critical mechanism for addressing **China's assertive actions** in the region, safeguarding freedom of navigation, and promoting the **rule-based international order**.

#### Geopolitical and Economic Impact:

- The grouping supports India's ambition to be a **regional superpower**, contributing to a **multipolar world**.
- Enhanced **military collaboration**, intelligence sharing, and joint exercises provide a robust framework for regional stability.

### Challenges Confronting the Quad:

#### Divergent Priorities:

- Each member nation has distinct **geopolitical interests**, leading to potential differences in focus areas such as **military, trade, and climate policies**.

#### Perceived Anti-China Bias:

- The Quad is often seen as an **anti-China coalition**, complicating relations with nations in the **Indo-Pacific** that rely heavily on economic ties with China.

#### Structural Limitations:

- The absence of a **formal structure or secretariat** limits long-term planning and the execution of initiatives.

#### Regional Concerns:

- **ASEAN nations** have expressed apprehensions about the Quad overshadowing their **central role** in Indo-Pacific security.

### Way Forward:

#### Strengthening Collaboration:

- With **India set to host the Quad Summit in 2025**, the group must leverage this opportunity to reinforce its **vision of an inclusive Indo-Pacific** through clear, transparent objectives.

#### Addressing Perception Challenges:

- Transparent communication is essential to dispel concerns regarding the Quad's **anti-China image** and encourage broader regional participation.

**Expanding Focus Areas:**

- Collaboration on **emerging technologies**, **green infrastructure**, and **climate resilience** can diversify the Quad's agenda, showcasing its relevance to a wider audience.

**Enhancing Regional Partnerships:**

- Deepening ties with **ASEAN** and other Indo-Pacific nations can ensure a balanced approach that respects the centrality of regional players.

**Additional Insights:****Impact of Quad Initiatives:**

- The Quad has already demonstrated its potential through joint projects, including vaccine distribution under the **Quad Vaccine Partnership**, technology sharing, and security dialogues.
- Future focus on **supply chain diversification**, particularly in critical sectors like **semiconductors and rare earth minerals**, could reduce dependency on single sources and boost economic security in the region.

**Role in Global Governance:**

- By championing **democratic values**, **transparency**, and **sustainable development**, the Quad can serve as a model for addressing global challenges, from cybersecurity to climate change.

The **Quad's renewed pledge** for a free and stable Indo-Pacific is not just a geopolitical strategy but a commitment to fostering a region built on **collaboration, inclusivity, and shared prosperity**.

**Russia And Gas Transit to Ukraine Amid Conflict**

**Context:** Russia has halted natural gas transit to Europe through Ukraine as their long-standing agreement expired. This shift forces Europe to strengthen its energy diversification strategy, benefiting nations like the **United States, Norway**, and **Qatar**, while impacting key European markets reliant on Russian gas.

**Key Highlights:****Why in News?**

As of **New Year's Day 2025**, Russian gas exports through **Soviet-era pipelines** in Ukraine have stopped due to the expiration of a critical transit deal.

- **Reason:** No agreement was reached between **Moscow** and **Kyiv** amid escalating geopolitical tensions.
- Ukraine cited **national security concerns** for halting transit during the ongoing military conflict.

**The Urengoy-Pomary-Uzhgorod Pipeline: A Snapshot:**

- **Purpose:** This Soviet-era pipeline transported gas from Siberia to Europe via Ukraine.
- **Route:** It passes through Ukraine to **Slovakia**, branching into **Austria** and the **Czech Republic**.
- **Local Supply:** The pipeline also provided gas to **Transdnistria**, which borders Ukraine.

**Decline in Russian Gas Supply via Ukraine:****Shrinking Market Share:**

- Once controlling **35% of Europe's gas market**, Russia now holds just **8%**.
- Russian gas supplied through Ukraine dropped from **65 bcm/year in 2020** to less than **14 bcm by December 2024**.

**Economic Losses:**

- Ukraine loses **\$800 million–\$1 billion** annually in transit fees.





- Russia's **Gazprom** stands to lose nearly **\$5 billion** in 2024 gas sales.

#### Impact of the Transit Halt:

##### For Russia and Gazprom:

- **Financial Losses:** Reduced transit fees and declining export revenue.
- **Market Erosion:** Russia's influence in Europe's gas market continues to diminish.

##### For the European Union:

- **Countries Affected:**
  - **Austria:** Heavily dependent on Russian gas, now transitioning to alternative suppliers.
  - **Slovakia:** Imports around **3 bcm per year** (two-thirds of its requirements) but claims diversification has mitigated the impact.
  - **Moldova:** Faces challenges but is diversifying its energy mix and reducing gas consumption.
- **Market Adjustments:**
  - EU gas prices, which hit record highs in 2022, are unlikely to spike again due to reduced reliance on Russian gas.
  - Increased imports of **liquefied natural gas (LNG)** and pipeline gas from **Norway, the US, and Qatar**.

#### Alternative Options for Buyers:

##### Shutting Down Other Pipelines:

- **Yamal-Europe Pipeline:** Closed via Belarus.
- **Nord Stream Pipelines:** Severely damaged in 2022.

##### Existing Alternatives:

- **TurkStream Pipeline:** Continues to supply gas to **Turkey, Hungary, and Serbia**.
- **Diversified Routes:**
  - **Slovakia:** Tapping into supplies from Hungary, Austria, and the Czech Republic.
  - **Austria:** Secured alternative agreements for a smooth transition.
  - **Czech Republic:** Utilizing German pipelines, which are exempt from gas levies, to assist Slovakia.
  - **Moldova:** Reducing gas consumption by **one-third** and exploring diversified energy sources.

#### Future Outlook:

The halt in Russian gas transit marks a significant shift in Europe's energy dynamics. While the EU has reduced its reliance on Russian gas, challenges remain for nations transitioning to alternative supplies. The continued focus on **LNG imports**, renewable energy, and pipeline agreements with non-Russian partners highlights Europe's commitment to energy security in an evolving geopolitical landscape.

## India Strengthens Support for Maldives Amid Economic Challenges

**Context:** In a move to deepen bilateral ties, the **Foreign Minister of the Maldives** is on a **three-day visit to India**, focusing on key areas like **trade, investment, and strategic cooperation**.

Why is the Maldives Important to India?

1. **Strategic Location in the Indian Ocean:**







- The Maldives lies along critical **maritime trade routes**, serving as a vital link between the **Gulf of Aden** and the **Strait of Malacca**.
- It acts as a “**toll gate**” for nearly **50% of India’s external trade** and **80% of its energy imports**.
- 2. **Counterbalancing China's Influence:**
  - The Maldives plays a pivotal role in India’s efforts to **counter China's expanding footprint** in the Indian Ocean region, ensuring a **regional balance of power**.
- 3. **Tourism and Trade Nexus:**
  - The Maldives is a key destination for Indian tourists and a significant trade partner. India has consistently ranked as the **largest source market** for Maldivian tourism.

### Key Dimensions of India-Maldives Partnership:

#### 1. Economic Cooperation:

- **India: Maldives' Largest Trade Partner**

- In 2023, India emerged as the Maldives’ **top trade partner** and one of its largest investors.
- Indian businesses are involved in major **infrastructure projects** that are crucial for the Maldivian economy.

#### 2. Defense and Security Ties:

- **Historical Cooperation:** India has been a major defense ally of the Maldives since **1988**, assisting in training and capacity-building for the Maldivian armed forces.
- **Action Plan for Defense:** Signed in 2016, this agreement has bolstered collaboration in areas like **maritime surveillance**, **anti-terrorism efforts**, and intelligence sharing.
- Almost **70% of Maldives' defense training** is conducted by India.

#### 3. Connectivity Projects:

- **Greater Male Connectivity Project (GMCP)**

- A **\$530 million project** funded by India, connecting Male with Villingili, Gulhifalhu, and Thilafushi through bridges, causeways, and roads.
- Key for the development of the proposed **Gulhifalhu Port**, boosting trade and economic activity.

### Challenges in India-Maldives Relations:

#### 1. Political Instability:

- Frequent **political upheavals** and changes in leadership in the Maldives often disrupt long-term projects and agreements.

#### 2. Chinese Economic Influence:

- **China's investments in Maldivian infrastructure** have raised concerns about **debt-trap diplomacy**, challenging India’s influence.

#### 3. Non-Traditional Security Threats:

- Issues like **piracy, terrorism, and drug trafficking** require continuous vigilance and cooperation between the two nations.

#### 4. Trade Imbalance:

- The trade relationship favors India, leading to calls for **diversifying trade** to reduce resentment.

### The Way Forward:

India and the Maldives must work together to address these challenges while leveraging their **shared interests and cultural ties**. Key steps include:

1. **Strengthening People-to-People Ties:** Promoting tourism, cultural exchanges, and academic collaborations.
2. **Diversifying Economic Partnerships:** Encouraging investments in **sustainable energy**, **digital infrastructure**, and **blue economy** sectors.
3. **Enhancing Maritime Security:** Joint efforts to safeguard trade routes and counter security threats in the Indian Ocean.

### Did You Know?

- India was the **first responder** to the Maldives during the 1988 coup attempt and the **COVID-19 pandemic**, highlighting its unwavering commitment.
- The Maldives actively participates in **India's SAGAR (Security and Growth for All in the Region)** initiative to ensure peace and stability in the Indian Ocean.

By recognizing the **Maldives' strategic importance**, India continues to walk the extra mile to nurture a **strong and mutually beneficial relationship**, ensuring regional stability and prosperity.

### Easing Restrictions to Bolster Indo-US Nuclear Partnership

**Context:** The **United States** has recently announced the **removal of restrictions** on several key Indian nuclear entities, including the **Bhabha Atomic Research Centre (BARC)**, **Indira Gandhi Atomic Research Centre (IGCAR)**, and **Indian Rare Earths Limited (IREL)**, from its **Entity List**. This decision is expected to rejuvenate the **Indo-US nuclear deal** and enhance bilateral cooperation in nuclear technology.



The **US Entity List** is a tool of the **US Department of Commerce**, used to restrict access to **US-origin goods, services, and technology** for foreign entities deemed a risk to national security or foreign policy.

### Historical Background:

#### The 123 Agreement:

The **Agreement for Cooperation between India and the United States** concerning the **Peaceful Uses of Nuclear Energy**, also known as the **123 Agreement**, was signed under Section 123 of the **US Atomic Energy Act of 1954**.

- It aimed to **end technology denial regimes** and **nuclear isolation** for India, which had persisted for three decades.
- The agreement opened doors for India to engage in **civil nuclear cooperation** with the US and other global partners on equal terms.

#### The Indo-US Nuclear Deal (2008):

- The **landmark agreement** signed in **2008** granted India access to **nuclear technology and fuel** from the **international market**, even though India is not a signatory to the **Nuclear Non-Proliferation Treaty (NPT)**.
- It allowed India to participate in the **global nuclear trade**, ensuring its access to nuclear materials and technology without the obligation to sign the **Comprehensive Nuclear-Test-Ban Treaty (CTBT)** or the **Fissile Material Cut-off Treaty (FMCT)**.

### Significance of Indo-US Civil Nuclear Collaboration:

1. **Critical Technology and Innovation:**
  - Under the **Initiative on Critical and Emerging Technology (iCET)**, the partnership aims to foster **innovation** and enable **joint manufacturing of nuclear components**.
  - This includes the potential deployment of **American atomic reactors** in India and the development of **Small Modular Reactors (SMRs)** and **Light Water Reactors (LWRs)**.
2. **Energy Security and Climate Goals:**

- Nuclear energy provides a **low-carbon, reliable energy source**, aligning with India's **clean energy goals** and its commitment to reducing **greenhouse gas emissions**.
- Collaboration with the US can help India meet its growing **energy demands** while transitioning from fossil fuels.

### 3. Technological Advancements:

- Access to **advanced nuclear technology** from the US will improve the **efficiency and safety** of Indian nuclear plants.
- It will also encourage **joint research and innovation** in nuclear science, benefiting both nations.

### Implications of the Easing of Restrictions:

#### 1. Strategic Importance:

- Removing Indian entities from the **US Restricted Lists** paves the way for enhanced **scientific and technological cooperation**, giving fresh momentum to the nuclear partnership.

#### 2. Global and Regional Significance:

- The partnership underscores the **geopolitical importance** of **India-US relations**, particularly in the **Indo-Pacific region**, where both countries seek to counterbalance emerging challenges.

#### 3. Economic and Industrial Growth:

- Increased nuclear collaboration can **boost industrial growth**, foster **employment opportunities**, and strengthen India's **clean energy infrastructure**.

### Key Challenges:

#### 1. Nuclear Liability Laws:

- India's **Civil Liability for Nuclear Damage Act, 2010**, places liability for nuclear accidents on **operators**, rather than **suppliers**, deterring foreign nuclear vendors.

#### 2. US Authorization Hurdles:

- The **10CFR810 authorization** under the **US Atomic Energy Act** imposes strict safeguards, limiting US nuclear vendors from manufacturing nuclear equipment or performing design work in India.

#### 3. Regulatory and Bureaucratic Barriers:

- Both nations face challenges in aligning **regulatory frameworks** and navigating **complex approval processes**.

### Future Prospects:

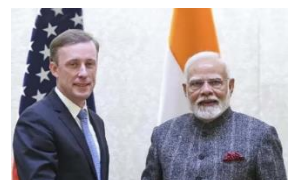
The easing of restrictions by the US marks a **new chapter** in the Indo-US nuclear partnership. By leveraging **American nuclear technology**, India can significantly expand its **clean energy infrastructure**, contributing to global efforts to combat **climate change**.

This collaboration also highlights the **strategic importance** of India-US relations, enhancing their position in the **Indo-Pacific**. Overcoming **regulatory hurdles** and **streamlining processes** will be critical to realizing the full potential of this partnership, ensuring mutual benefits in **energy security**, **innovation**, and **geopolitical stability**.

## India-U.S. Collaboration to Manufacture Interoperable Sonobuoys for Naval Operations

**Context:** India and the **United States** have announced a landmark agreement to jointly manufacture **sonobuoys**—advanced underwater acoustic devices—to enhance the **Undersea Domain Awareness (UDA)** of the Indian Navy.

### What Are Sonobuoys?



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Page No

11



**Sonobuoys** are compact, expendable devices designed to detect and track submarines and underwater threats. They play a critical role in **underwater acoustics** and **sonar systems**, offering precision capabilities to detect, analyze, and neutralize hostile objects beneath the surface.

### How Do Sonobuoys Work?

1. **Deployment:** Sonobuoys are launched from aircraft or naval ships.
2. **Activation:** They activate upon hitting the water and deploy an inflatable float that remains at the surface, maintaining communication.
3. **Underwater Operations:** Hydrophones attached to the sonobuoy descend to selected depths to capture acoustic signals.
4. **Data Transmission:** These signals are sent to operators in real-time via **VHF** or **UHF** radio frequencies for analysis.

### Key Features:

- **Interchangeable and Interoperable:** Co-produced sonobuoys are designed to be seamlessly used by both the **Indian Navy** and the **U.S. Navy**.
- **Timeline:** The system is expected to become operational by **2027**.
- **'Make in India' Initiative:** The production will be split between India and the U.S., aligning with India's commitment to indigenous manufacturing under the **'Make in India' program**.

### Significance of the Collaboration:

1. **Enhanced Maritime Security:** With growing concerns over the **Chinese presence** in the Indian Ocean Region (IOR), this collaboration will boost India's capability to detect and respond to underwater threats.
2. **Strategic Importance of UDA:** After achieving significant progress in **Maritime Domain Awareness**, UDA has emerged as a key focus area for India and other Quad nations.
3. **Regional Stability:** Strengthening underwater detection capabilities is crucial for ensuring the region remains secure for **trade, commerce**, and overall **prosperity**.
4. **Technology Transfer:** The agreement highlights the U.S. commitment to **technology transfer**, supporting India's ambition to establish itself as a global defense manufacturing hub.

### Overview of India-U.S. Bilateral Relations:

#### Economic Ties:

- Bilateral trade between the two nations grew by **72%** from 2017-18 to 2022-23.
- The U.S. contributed **18% of gross FDI inflows** into India during 2021-22, making it India's second-largest investor after Singapore.

#### Defense Cooperation:

- India and the U.S. have signed three foundational defense agreements:
  1. **LEMOA (2016):** Allows the militaries of both nations to access each other's bases for logistics support.
  2. **COMCASA (2018):** Ensures secure communication between defense systems.
  3. **BECA (2020):** Enables sharing of geospatial intelligence for enhanced accuracy in military operations.
- In 2016, the U.S. elevated India to the status of **Major Defense Partner**, an exclusive designation reflecting deepening ties.

#### Space Collaboration:

- India joined the **Artemis Accords**, promoting a shared vision for the future of space exploration.





- Both nations collaborate through the **Civil Space Joint Working Group**, advancing space science and exploration.

#### Multilateral Engagement:

- India and the U.S. actively cooperate in organizations such as the **United Nations, G20, ASEAN, and WTO**.
- They are key members of the **Quad** (alongside Japan and Australia), promoting a **free and open Indo-Pacific**.

#### Nuclear Cooperation:

- The **Civil Nuclear Deal (2005)** marked a turning point in bilateral relations. Under this agreement:
  - India separates its civil and military nuclear facilities.
  - Civil facilities are placed under **IAEA safeguards**, enabling the U.S. to support India's peaceful nuclear energy initiatives.

#### Extra Insights:

- Quad's Role in UDA:** The Quad's emphasis on **underwater domain awareness** reflects a shared goal to counter potential security threats in the Indo-Pacific.
- Technology for Maritime Security:** Sonobuoys represent just one facet of advanced technologies that India and the U.S. are exploring to ensure regional stability.

#### Conclusion:

The **India-U.S. sonobuoy co-production initiative** is a strategic milestone in strengthening bilateral defense cooperation and advancing India's maritime security. This collaboration not only aligns with India's **'Make in India' vision** but also reinforces its position as a critical player in ensuring peace and stability in the Indo-Pacific region. By deepening technological and defense partnerships, India and the U.S. are paving the way for a **secure, prosperous, and interconnected future**.

### India and Taliban Strengthen Ties: Key Insights from Dubai Meeting

**Context:** A significant **high-level meeting** took place in **Dubai** between **Indian Foreign Secretary Vikram Misri** and **Taliban Acting Foreign Minister Mawlawi Amir Khan Muttaqi**. This marks a major shift in **India-Taliban relations**, which had remained subdued since the Taliban's takeover in **2021**. The discussions focused on **security, humanitarian aid, and regional cooperation**, signaling India's strategic move toward enhanced engagement.



#### Historical Context of India-Taliban Relations:

##### 1. India's Position on the Taliban Regime:

- India, like most nations, does **not officially recognize** the Taliban due to concerns over its lack of **inclusivity** and its **treatment of women and minorities**.
- Despite this, India has maintained **limited engagement** to assist the Afghan people and ensure **regional stability**.

##### 2. Timeline of Engagement:

- 2021:** India initiated contact through its ambassador in Doha after the Taliban seized power.
- 2022:** Low-profile meetings were held, and a **technical team** was deployed to the Indian embassy in Kabul.
- 2025:** The Dubai meeting represents India's **first high-level interaction**, signaling an upgrade in its diplomatic approach.

#### Highlights of the Dubai Meeting:

##### 1. Security Cooperation:



- India raised concerns about **anti-India terror groups** operating in Afghanistan, including **Lashkar-e-Taiba (LeT)** and **Jaish-e-Mohammed (JeM)**.
- The Taliban assured sensitivity to these concerns, emphasizing their intent to prevent the use of Afghan territory for such activities.

## 2. Humanitarian Assistance:

- India committed to enhancing **humanitarian aid** and **developmental support**, including ongoing shipments of:
  - **50,000 MT of wheat**
  - **300 tons of medicines**
  - **27 tons of earthquake relief materials**
  - **Millions of vaccine doses**
- The two sides also discussed expanding healthcare and **refugee rehabilitation programs**.

## 3. Trade via Chabahar Port:

- Both nations agreed to use **Iran's Chabahar Port** to facilitate **trade** and **aid delivery**, bypassing geopolitical challenges.

## 4. Sports Diplomacy:

- India pledged to support **Afghan cricket**, offering training facilities and infrastructure development in **Noida**.

## Strategic Motivations Behind India's Engagement:

### 1. Shifting Regional Dynamics:

- **Pakistan-Taliban Strains:** Rising tensions between Pakistan and the Taliban have created an opening for India to strengthen ties.
- **China's Influence:** China's growing presence in Afghanistan through the **Belt and Road Initiative** pushes India to secure its own foothold.
- **Russia's Reorientation:** Russia's focus on Ukraine limits its involvement in Afghanistan, offering India an opportunity.
- **Iran's Internal Struggles:** Iran's reduced regional influence has created a gap India seeks to fill.

### 2. Preemptive Strategy:

- With possible **US re-engagement** under a Trump administration, India aims to position itself as a key player in Afghanistan's future.

## Challenges and Opportunities:

### Challenges:

- **Human Rights Issues:** The Taliban's stance on **women's rights** and **minority inclusion** remains a significant concern.
- **Security Threats:** Groups like **ISIS-Khorasan** continue to pose risks to regional stability.

### Opportunities:

- **Stability and Development:** India's support can contribute to long-term stability in Afghanistan.
- **Economic Leverage:** Strengthening trade ties and utilizing Chabahar Port enhances India's regional influence.
- **Strategic Partnerships:** The Taliban's willingness to collaborate provides India an avenue to safeguard its interests.

## Conclusion:



The **India-Taliban meeting in Dubai** reflects a **pragmatic shift** in India's foreign policy, emphasizing security, humanitarian aid, and regional stability. While India continues to withhold formal recognition of the Taliban regime, this engagement underscores its intent to **protect national interests** and **shape regional dynamics** amidst evolving geopolitical challenges.

India's proactive approach demonstrates its readiness to navigate complex relations in pursuit of **strategic stability**, ensuring a balanced response to both opportunities and risks in Afghanistan.

## Yemen Embassy Clarifies No Sanction for Indian Nurse's Death Sentence

**Context:** The **Yemen Embassy in India** has recently addressed the confusion surrounding the **death sentence** of Indian nurse **Nimisha Priya**. According to the embassy's statement, **Rashad al-Alimi**, the Chairman of Yemen's **Presidential Leadership Council**, has **not ratified** the death sentence passed on Nimisha Priya. This clarification comes amidst ongoing political turmoil in Yemen and differing governance claims.



### Background of the Case:

- Nimisha Priya**, an Indian nurse, was **sentenced to death** in Yemen for the alleged **murder** of her business partner, **Talal Abdo Mahdi**, in 2017.
- The **Houthi militias**, who control the capital **Sanaa** and its surrounding areas, have been handling the entire case, with limited involvement from Yemen's internationally recognized government.
- The government, led by **Rashad al-Alimi**, has clarified that it has **not approved** the death sentence, highlighting the **divided governance** in Yemen.

### Yemen's Civil War and Its Impact on the Case:

Yemen has been embroiled in a **civil war** since 2014, when the **Houthi movement**, a **Zaidi Shia** group from northern Yemen, seized the capital **Sanaa** and ousted President **Abdrabbuh Mansur Hadi**'s government. The ongoing conflict has evolved into a complex web of factions and alliances, including:

- Houthi Militias (Ansar Allah):** A **Shia Muslim group** controlling **Sanaa** and much of northern Yemen, backed by **Iran**.
- Internationally Recognized Government:** Supported by **Saudi Arabia**, this government controls parts of the southern and eastern regions of Yemen and is acknowledged globally as Yemen's legitimate government.
- Southern Transitional Council (STC):** Backed by the **UAE**, this council controls parts of **southern Yemen** and is involved in the broader conflict.

### The Role of the Yemen Embassy in India:

- The **Yemen Embassy in India** represents the **Saudi-backed government** of Yemen, not the **Houthi militias**, which control **Sanaa**.
- This distinction is crucial, as the **Houthi rebels** do not have official diplomatic representation in India, meaning their stance on the case is not formally communicated through official channels in the country.

### The Complexities of Yemen's Political Landscape:

- Competing Political Claims:** The **Houthi-led government** in Sanaa and the **Saudi-backed government** in Aden continue to compete for control, making **international diplomacy** regarding Yemen's internal affairs extremely complicated.
- Humanitarian Crisis:** Yemen's civil war has led to one of the **worst humanitarian crises** in recent history, with over **230,000 deaths** and millions displaced. Both sides are accused of **human rights violations**, including **targeting civilians** and disrupting access to essential services like food, water, and healthcare.

### Future Prospects for the Case:

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The situation surrounding Nimisha Priya's death sentence highlights the **complexities** of dealing with justice in a country marked by **political fragmentation** and **military occupation**. Navigating such cases requires careful diplomacy, given the divisions between the internationally recognized government and the Houthi authorities.

The **Indian government** continues to work diplomatically through various channels, including the **Yemen Embassy in India**, to ensure the safety and well-being of its citizens abroad.

#### Additional Facts and Context:

- **Yemen's Strategic Location:** Yemen sits on the **Bab-el-Mandeb Strait**, a key maritime chokepoint between the **Red Sea** and the **Gulf of Aden**, making the country's stability vital for international trade routes.
- **Houthi Influence:** The **Houthi** rebels have become increasingly aligned with **Iran**, further complicating the geopolitical dynamics in the region.
- **Humanitarian Efforts:** Yemen remains dependent on international **humanitarian aid**. Organizations such as the **UNICEF**, **Red Cross**, and various NGOs continue to provide critical support amidst the conflict.

#### Conclusion:

The case of **Nimisha Priya** is not only a legal matter but also a reflection of Yemen's **deep political divisions**. As the **Yemen Embassy** in India reiterates, the death sentence has **not been sanctioned** by the internationally recognized Yemeni government. However, the **competing factions** and **complex regional geopolitics** make resolving the issue a delicate and prolonged process. While diplomatic efforts are ongoing, the situation in Yemen underscores the broader challenges of conflict resolution and international engagement in a war-torn region.

### Indonesia Joins BRICS as a Full Member: Expanding the Bloc's Global Influence

**Context:** **Indonesia** has officially become the **11th member of BRICS**, effective from **January 2025**. This expansion highlights BRICS' growing influence among **emerging economies** and its efforts to reshape the global economic and political landscape.

#### Understanding BRICS:

##### What is BRICS?

**BRICS** is an **informal intergovernmental grouping** of major emerging economies that collaborates to enhance global influence and foster cooperation.

#### Current Members:

- **Founding Members:** Brazil, Russia, India, China.
- **New Members:** South Africa joined in **2010**, followed by Iran, UAE, Egypt, Ethiopia, and Saudi Arabia in **2024**.
- **Notable Absence:** Argentina, initially expected to join in 2024, withdrew its membership plans.

#### Background:

- The **first BRIC Summit** was held in **Russia** in **2009**, emphasizing economic collaboration among emerging powers.
- Over time, the bloc has evolved to address global issues beyond economics, such as **energy security**, **climate change**, and **multilateral reforms**.

#### Significance of BRICS:

##### Economic Powerhouse:

- BRICS represents approximately **35% of global GDP** and **46% of the world's population**, making it a key driver of the global economy.
- The bloc encourages **trade and investment** among emerging economies, reducing dependence on Western markets.





**Counterbalancing Western Dominance:**

- BRICS serves as a **platform for emerging economies** to challenge the **G7** and other Western-led financial systems.
- Promotes a **multipolar global order**, reducing reliance on the **US and Europe** in shaping international policies.

**Reducing Dollar Dependence:**

- BRICS is actively promoting **local currency usage** in international trade and finance to minimize reliance on the **US dollar**.
- This move enhances the **strength of local currencies**, reduces exposure to dollar-related vulnerabilities, and fosters **economic sovereignty**.

**Advocacy for Global Reforms:**

- BRICS pushes for greater representation of **developing nations** in global institutions like the **IMF** and the **United Nations**.
- It seeks to ensure a **fairer global order**, addressing the imbalance in decision-making power.

**Collaboration on Global Challenges:**

- The bloc focuses on **sustainable development**, **technological advancements**, and **infrastructure building**.
- Joint efforts address pressing issues like **climate change**, **energy security**, and **global health crises**.

**Energy and Resource Security:**

- Many BRICS nations are key players in the global energy market, either as major producers (e.g., Russia, Saudi Arabia) or consumers (e.g., India, China).
- Strategic partnerships within the bloc aim to ensure **energy security** and **sustainability**.

**Championing Multilateralism:**

- BRICS emphasizes **collective problem-solving**, strengthening **multilateral institutions** and discouraging unilateral actions.

**Challenges Facing BRICS:****Economic Diversity:**

- BRICS members have vastly different economic structures, ranging from **industrial giants** like China and India to **resource-dependent economies** like Brazil and Russia.
- Divergent priorities on issues like **trade policies** and **economic reforms** often complicate decision-making.

**Political Differences:**

- While BRICS members share a vision of a **multipolar world**, their **political ideologies** and alliances vary widely.
- Border tensions (e.g., **India-China disputes**) and geopolitical alignments (e.g., **Russia's isolation** due to the Ukraine conflict) pose challenges to unity.

**Geopolitical Rivalries:**

- Rivalries between member states, such as **China and India**, affect the bloc's cohesion.
- Competing external alliances, like **India's ties with the US** and **Russia's pivot to China**, further complicate collective decision-making.

**Dependence on Western Markets:**

- Despite efforts to create **independent financial systems**, many BRICS economies remain reliant on **Western-dominated trade networks**.
- Transitioning to a non-dollar system requires overcoming these deep-rooted dependencies.



## Why Indonesia's Inclusion Matters:

### Strengthening Regional Representation:

- Indonesia's membership enhances BRICS' presence in **Southeast Asia**, a region of strategic importance.
- As a growing economy with significant natural resources, Indonesia adds weight to the bloc's economic and energy discussions.

### Boosting Global Credibility:

- With Indonesia onboard, BRICS gains a broader **geopolitical footprint**, bolstering its claims as a representative of the **Global South**.
- This addition aligns with BRICS' goal to become a more inclusive and powerful voice for emerging economies.

### Looking Ahead:

The inclusion of Indonesia reflects BRICS' expanding influence and its commitment to reshaping the global economic order.

However, to remain effective, the bloc must address **internal challenges**, build **consensus among diverse economies**, and continue driving **reforms in global governance**.

With **11 member nations**, BRICS is poised to become a **major player** in steering the world toward a **more equitable and multipolar future**.

### Did You Know?

- BRICS collectively accounts for over **50% of global energy consumption**, making it a critical player in shaping energy policies.
- The bloc's proposed **BRICS Development Bank** (New Development Bank) aims to fund infrastructure projects across member nations, reducing reliance on Western financial institutions.

## NATO Members Hesitant to Back Trump's Defence Spending Proposal

**Context:** U.S. President-elect Donald Trump has proposed that **NATO members** increase their **defence spending** to **5% of GDP**, a significant leap from the current target of **2%**.

- This proposal is viewed as **economically challenging** and **politically untenable** for most member states.
- However, at the upcoming **NATO summit in June**, there are expectations of a new, higher target, potentially around **3% of GDP**.



### Defence Spending by NATO Members:

#### Current Spending Trends:

- Poland** leads in defence spending, allocating a staggering **12% of its GDP** due to its proximity to Ukraine.
- Estonia** follows with **3.43%**, and the **United States** contributes **3.38%** of its GDP to defence.
- The total defence expenditure of **NATO nations** in 2024 was estimated at **\$1.474 trillion**, with the **U.S. contributing \$968 billion**, making it the largest contributor by a wide margin.

### Impact of the Russia-Ukraine Conflict:

- Following **Russia's invasion of Ukraine**, European nations have gradually increased their defence budgets.
- Despite these efforts, most countries still fall short of meeting the **current 2% target**, let alone more ambitious goals.

### Understanding NATO:

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### Foundation and Purpose:

- Established in **1949** through the **Washington Treaty**, the **North Atlantic Treaty Organization (NATO)** is a **security alliance** of **32 nations** from North America and Europe.
- Sweden** became NATO's newest member in **March 2024**, increasing the alliance's strength and reach.
- The original **12 founding members** included the **United States, Canada**, and **ten European nations: Belgium, Denmark, France, Iceland, Italy, Luxembourg, the Netherlands, Norway, Portugal, and the United Kingdom.**

### Core Principles:

- NATO operates under the principle of **collective defence**, enshrined in **Article 5** of the North Atlantic Treaty.
  - This principle means an **attack on one member is considered an attack on all**, obligating collective action.
- The alliance aims to safeguard its members' **freedom and security** through **political** and **military** means.

### Headquarters:

- NATO is headquartered in **Brussels, Belgium**, serving as the hub for its strategic and diplomatic operations.

### Challenges with the 5% Proposal:

- Economic Strain:**
  - Many member nations face **budget constraints**, making the jump to 5% **unrealistic**.
  - Only a handful of countries, like **Poland**, have been able to allocate substantially higher percentages due to **geopolitical pressures**.
- Political Pushback:**
  - The proposal risks widening **divisions within NATO**, with some nations unwilling or unable to meet these new expectations.
- Existing Disparities:**
  - The **United States** already contributes a disproportionately large share of NATO's defence budget, leading to ongoing debates about **equitable burden-sharing**.

### Additional Insights:

- NATO's Evolution:** From a Cold War-era alliance to a modern security organization, NATO now addresses challenges like **cybersecurity, terrorism, and climate-related threats**.
- Future Direction:** While increased defence spending is essential to counter growing threats, the path forward requires a balance between **economic realities** and **collective security commitments**.

### Looking Ahead:

The **NATO summit in June** will be a critical juncture for deciding the alliance's future defence spending targets.

- While **Trump's 5% proposal** is unlikely to gain unanimous support, a revised goal of around **3% of GDP** could emerge as a **more feasible compromise**.
- The challenge lies in ensuring all member states contribute fairly while maintaining **unity** in addressing global security threats.

### Interpol's Silver Notice: A New Tool Against Criminal Asset Laundering

**Context:** The International Criminal Police Organisation (Interpol) has recently introduced its first-ever 'Silver Notice', a groundbreaking initiative aimed at **tracking and retrieving criminally acquired assets** across borders.

**What is the Silver Notice?**

**A New Addition to Interpol's Colour-Coded Alerts**

The **Silver Notice** expands Interpol's suite of **colour-coded alerts**, focusing specifically on **assets obtained through criminal activities**.

**Purpose:**

- Designed to help countries **trace and recover assets linked to crimes** such as fraud, corruption, drug trafficking, and environmental violations.
- Facilitates international cooperation to identify and **track laundered assets** across borders.

**Origins and Scope:**

- Launched as part of a **pilot project** involving **52 countries**, including India.
- The initiative was initiated following a request from **Italy** to locate the assets of a senior mafia member.
- The project will run until **November 2025**, with **500 Silver Notices** available for use by participating nations.

**How Does the Silver Notice Work?**

- Requesting Information:** Countries can issue Silver Notices to gather information on various **criminally linked assets**, including properties, vehicles, businesses, and financial accounts.
- Identifying and Locating Assets:** Enables the identification and location of these assets, paving the way for **legal actions** such as **seizure or confiscation**, in compliance with national laws.
- Global Coordination:** Acts as a bridge between countries to facilitate **asset tracing** on an international scale, ensuring that no criminal asset goes unnoticed.

**India's Participation and Potential Gains:**

**India as a Key Participant:** India is among the **52 nations** participating in this initiative.

**Significance for India:**

- India faces challenges with **fugitive economic offenders** and **unaccounted black money** stashed abroad.
- The **Silver Notice** offers a powerful tool to **trace and recover these offshore assets**, boosting the country's fight against economic crimes.

**Why is the Silver Notice Important?**

- Targeted Approach:** Focuses on the **financial aspect of crimes**, ensuring that illicit profits are identified and retrieved.
- Global Reach:** Facilitates **cross-border collaboration** in asset recovery, reducing safe havens for criminals.
- Complement to Legal Actions:** Enhances the ability of nations to take **legal and punitive measures** against offenders.

**Conclusion:** Interpol's **Silver Notice** is a **game-changer in combating international financial crimes**. By streamlining the process of tracing and recovering criminal assets, it strengthens global efforts to curb economic offenses and enhances cooperation among nations. For India, this initiative is a significant step forward in its quest to address the challenges posed by **fugitive offenders and laundered wealth**.







## India Joins UN Panel on Big Data for Official Statistics

**Context:** India has become a member of the **UN Committee of Experts on Big Data and Data Science for Official Statistics (UN-CEBD)**.

- This milestone, announced by the **Ministry of Statistics and Programme Implementation (MoSPI)**, marks India's active role in shaping global standards for leveraging **Big Data and data science** in official statistics.



### About UN-CEBD:

#### Establishment and Purpose:

- Formed in **2014** under the **UN Statistical Commission**, the **UN-CEBD** explores the potential of **Big Data and data science** in enhancing official statistics.
- It provides **strategic vision, coordination**, and direction for implementing global programs on **Big Data** for statistical purposes.

#### Focus Areas:

- Promoting the use of **Big Data** to monitor progress toward achieving the **Sustainable Development Goals (SDGs)**.
- Addressing challenges and opportunities posed by **Big Data technologies** in statistics.

### UN Statistical Commission:

#### Overview:

- Established in **1946** by the **UN Economic and Social Council (ECOSOC)**, the **UN Statistical Commission (UNSC)** is the **highest decision-making body** for international statistical activities.
- It develops **statistical standards** and methodologies while overseeing their implementation at the **national and international levels**.

#### Composition:

- Comprises **24 member countries**, elected by the **United Nations Economic and Social Council** to ensure **equitable geographical representation**.

### What is Big Data?

#### Definition:

**Big Data** refers to massive and complex datasets that traditional tools cannot efficiently process or analyze.

#### Key Characteristics (3Vs):

- Volume:** Enormous quantities of data generated from sources like **social media, sensors, and transactions**.
- Velocity:** High-speed generation and processing of data in real time.
- Variety:** Diverse data formats, including **structured, unstructured, and semi-structured data**.

#### Additional Dimensions:

- Veracity:** Reliability and quality of data.
- Value:** Insights and actionable intelligence derived from data.

### Significance of India's Membership:

- India's participation in the **UN-CEBD** reinforces its commitment to using **data science** for improving **official statistics**.
- It provides an opportunity for India to:

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- Collaborate on **global data initiatives**.
- Contribute to the development of **statistical frameworks**.
- Address key challenges in monitoring **Sustainable Development Goals (SDGs)**.

**Conclusion:**

India's inclusion in the **UN-CEBD** represents a significant step toward **modernizing statistical practices** and harnessing the potential of **Big Data and data science**. By playing a proactive role in this global initiative, India will help set standards that align with the evolving demands of data-driven decision-making and sustainable development.

**Israel-Hamas Draft Ceasefire Deal: A Path Toward Resolution**

**Context:** Hamas has agreed to a draft **ceasefire agreement** for the **Gaza Strip**, including the release of numerous hostages.

**Key Highlights:****Mediation Efforts:**

- The ceasefire proposal has been mediated by the **United States, Egypt, and Qatar** over the past year.
- The agreement requires final approval from the **Israeli Cabinet**.

**What is Hamas?**

- **Hamas** is the largest **Palestinian Islamist militant group** and one of the primary political parties in the region.
- It governs more than **two million Palestinians** in the **Gaza Strip**.
- **Foundation:** Established during the late 1980s amid the first Palestinian uprising against Israel's occupation of the West Bank and Gaza.
- **Designation:** Hamas is considered a **terrorist organization** by **Israel, the United States, the European Union, the United Kingdom**, and several other countries.

**Understanding the Israel-Palestine Conflict:****1. Historical Roots:**

- Stemming from the mid-20th century, the conflict began when **Britain facilitated the establishment of a Jewish homeland** in present-day **Israel**.
- The Palestinians claim territories, including the **West Bank** and **Gaza Strip**, that Israel currently occupies.

**2. Peace Efforts:**

- Agreements such as the **Oslo Accords** and **Abraham Accords** have aimed to normalize relations, but the stalemate over a **two-state solution** persists.

**Details of the Ceasefire Agreement:****Three-Phase Plan:****1. Phase One:**

- Gradual release of **33 hostages** over six weeks in exchange for **Palestinian women and children prisoners** in Israel.
- Israeli forces will withdraw from population centers during this **42-day phase**.

**2. Phase Two:**

- Hamas will release the remaining hostages, including **male soldiers**, in exchange for additional prisoner releases.
- Israel will implement a **complete withdrawal** from Gaza.

### 3. Phase Three:

- The remains of deceased hostages will be returned.
- A **three-to-five-year reconstruction plan** for Gaza will be executed under **international supervision**.

### Future Governance of Gaza:

#### 1. Complex Governance Issue:

- The governance of Gaza has not been addressed in the talks due to its intricate nature.

#### 2. Israel's Position:

- Israel has declared that **Hamas** will have no role in Gaza's future governance.
- It also opposes the involvement of the **Palestinian Authority** (established under the Oslo Accords).

#### 3. International Perspective:

- The global community insists that Gaza must be governed by **Palestinians**.
- However, attempts to identify alternatives within **civil society** or among **clan leaders** have been largely unsuccessful.

### Conclusion:

The **Israel-Hamas Draft Ceasefire Deal** represents a critical step toward addressing a prolonged and devastating conflict. While significant hurdles remain, especially regarding Gaza's governance, this draft agreement offers a pathway to **de-escalation**, **hostage recovery**, and the **reconstruction of Gaza** under international guidance.

## India-Bangladesh Border Dispute: Challenges in Fencing and Border Security

**Context:** The ongoing **India-Bangladesh border dispute** has raised tensions over issues related to **border security** and **fencing**. Recently, **India** summoned **Bangladesh's Acting High Commissioner** after **Bangladesh** expressed concerns about the **Border Security Force (BSF)** allegedly violating bilateral agreements. These concerns have escalated, especially after **Border Guards Bangladesh (BGB)** attempted to halt **fencing construction** in the **West Bengal-Malda border** region. This border, spanning over **4,096.7 km**, remains a long-standing source of disputes over **barbed wire fencing** and **border management**.



### India-Bangladesh Border (IBB):

The **India-Bangladesh border** is the longest border India shares, measuring **4,096.7 km**. It runs through several states, including **West Bengal (2,216.7 km)**, **Assam (263 km)**, **Meghalaya (443 km)**, **Tripura (856 km)**, and **Mizoram (318 km)**. The border is characterized by varied geographical features like **plains, hills, riverine stretches**, and **forests**, with **no significant natural barriers**. The highly porous nature of the border has made it a hotspot for illegal activities, such as **immigration, cattle smuggling**, and **human trafficking**.

### Status of Fencing Along the India-Bangladesh Border:

#### Overall Fencing Coverage:



Out of the total **4,096.7 km** of the **India-Bangladesh border**, **3,141 km** have been successfully fenced, covering all **eastern states**, including **West Bengal**. However, challenges persist in some regions due to geographical, social, and political factors.

**Fencing in West Bengal:** West Bengal shares the largest portion of the border, **2,216.7 km**, and as of **2023**, **81.5%** of it has been fenced. However, there are still small **unfenced patches** due to:

- **Objections from villagers**
- **Challenging terrain**
- **Ongoing negotiations with Bangladesh**

#### Challenges in Fencing Completion:

The **Ministry of Home Affairs** has highlighted several **delays** in fencing construction, including:

- **Non-cooperation** from the **West Bengal government**
- **Pending land acquisition**
- The **riverine nature** of over **900 km** of the border, which makes fencing impractical. These areas are secured by the **BSF's water wing**.

#### Recent Fencing Incidents:

##### Fencing Incident in Malda's Kaliachak Block:

The **BSF** and the **Central Road Works Department** were involved in constructing a **single-row fence** in **Malda's Kaliachak No. 3 block**, near **Bangladesh's Shibganj** in **Rajshahi district**. **Border Guards Bangladesh (BGB)** objected to this construction. Despite their objections, the work continued after discussions.

##### Fencing Dispute in Mekhliganj, Cooch Behar:

On **January 10**, **villagers** in **Mekhliganj** began constructing a **four-foot-high barbed-wire fence** near the **Bangladeshi enclave** of **Dahagram-Angarpota**, with support from the **BSF**. This was intended to prevent **cattle** from crossing over into Indian farms. **BGB** intervened to halt the work, escalating tensions between the two countries once again.

#### India-Bangladesh Border Guidelines: 1975 Joint Guidelines

The **1975 India-Bangladesh Joint Guidelines** prohibit the construction of **defense structures** within **150 yards** of the international boundary, commonly referred to as the **zero line**. While **India** does not classify **wire fencing** as a defense structure, **Bangladesh** and **Pakistan** do.

#### Challenges in Fencing Due to Border Complexity:

The **2,217 km** long border in **West Bengal** is especially complicated by:

- **Villages** and **rivers** along the boundary
- **Enclaves** such as **Dahagram-Angarpota** where **Bangladesh** is located within India
- The terrain, where sometimes the **zero line** coincides with **houses** or **villages**, complicating fencing efforts.

#### Exceptions to the 150-Yard Rule:

When fencing near the **zero line** is deemed impractical due to terrain, population, or water bodies, **mutual negotiations** between India and Bangladesh allow for **exceptions**. Fencing is sometimes built **closer** to the border, with **gates installed** to facilitate the movement of residents.

#### Reasons for the Dispute:

##### Violation of the 1975 Agreement:

**Bangladesh** argues that the construction of fencing, especially **single-row fencing (SRF)**, violates the **1975 India-Bangladesh guidelines**, particularly because it occurs within the **150-yard** zone from the border.

##### Impact on Border Residents:

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Fencing has created inconveniences for residents, **restricting movement** and **daily activities** along the border. However, **India** maintains that **SRF** is not a **defense structure** but a measure to control **animal movement** and curb **cross-border crimes**.

### Objection to Smart Fencing:

**Bangladesh** has raised concerns about **smart fencing**, which includes **CCTV** and **electronic surveillance**, fearing that it enables **India** to monitor their territory. **Smart fencing** is primarily installed in areas where villages are located within **150 yards** of the border or on the border itself.

### Ongoing Discussions:

The **fencing dispute** has been under continuous discussion for over **five years**, with frequent **objections** raised by **Bangladesh Border Guards (BGB)** during **flag meetings**. Both nations continue to negotiate the complexities of **border security** and the **fencing process**, with the aim to achieve a mutually agreeable resolution.

## India-Singapore: Celebrating 60 Years of Diplomatic Ties

**Context:** India and Singapore recently celebrated **60 years of diplomatic relations**, commemorated by the first visit of **Singapore's President Tharman Shanmugaratnam** to India. This milestone highlights the long-standing and evolving relationship between the two nations.



### Historical Foundations of India-Singapore Relations:

- Colonial Connections:** The diplomatic relationship between India and Singapore began on **August 24, 1965**, shortly after Singapore's independence. Their modern ties, however, date back to **1819**, when **Sir Stamford Raffles** established a British trading post in Singapore.
- Role in India's Freedom Struggle:** Singapore played a key role during **India's independence movement**, serving as the base for the **Provisional Government of Azad Hind** formed by **Subhash Chandra Bose** in **1943**.
- Recognition of Sovereignty:** India was among the first nations to recognize Singapore's independence in **1965**, setting the tone for a strong and enduring partnership.
- Comprehensive Strategic Partnership:** Over the decades, this relationship has grown into a **Comprehensive Strategic Partnership**, showcasing robust ties in **economics, politics, and culture**.

### Key Areas of Cooperation:

#### Economic and Trade Relations:

- Bilateral trade surged from **\$6.7 billion in FY 2004-05** to **\$35.6 billion in FY 2023-24**.
- Singapore ranks as **India's 6th largest trading partner**, accounting for **3.2% of India's total trade**.
- FDI Inflows:** In **2023-24**, Singapore invested **\$11.774 billion** in India, with key sectors including:
  - Services
  - IT & Hardware
  - Telecommunications
  - Pharmaceuticals

#### Fintech and Digital Integration:

- RuPay Card and UPI-PayNow Linkage:** Singapore became the first country to enable cross-border **Person-to-Person (P2P)** digital payment with India, highlighting collaboration in the **digital economy**.

**Defense and Strategic Collaboration:**

- **Defense Exercises:** Both nations participate in:
  - **Exercise Agni Warrior and Bold Kurukshetra** (Army)
  - **Exercise SIMBEX** (Navy)
- **Maritime Security:** They jointly promote **freedom of navigation** and counter piracy in the **Indo-Pacific** region.
- Singapore supports India's **Act East Policy**, enhancing India's engagement in regional cooperation.

**Science and Technology:**

- The **Indian Space Research Organisation (ISRO)** has launched several Singaporean satellites, including:
  - Singapore's first **indigenous micro-satellite** in **2011**.
  - **17 additional satellites** between 2014 and 2023.
- Initiatives include:
  - **ASEAN-India Women Scientists Conclave (2024)**
  - **Cyber Policy Dialogue (2024)**
  - **e-workshop on digital health and medical technology (2024)**

**Education and Skill Development:**

- India's **Skill India Program** benefits from Singapore's expertise in **vocational training**.
- Collaborative **research programs** between Indian and Singaporean institutions further strengthen educational ties.

**Multilateral and Regional Cooperation:**

- Singapore is a member of the **International Solar Alliance** and the **Global Bio-fuel Alliance** (joined in 2023).
- It backed India's **Declaration on Digital Public Infrastructure, AI, and Data for Governance** at the **G20 Summit (2024)**.
- **Comprehensive Economic Cooperation Agreement (CECA):** The first agreement of its kind signed by India with any nation.

**Cultural Ties: Celebrating Heritage Together:**

- The rich **Indian diaspora** in Singapore, comprising **9% of its population**, reflects the deep cultural connection.
- Festivals and events like **Kalaa Utsavam** and **Little India** in Singapore showcase the vibrant cultural bond.

**Future Prospects: Paving the Way for Deeper Collaboration:**

Looking ahead, India and Singapore aim to enhance their **Comprehensive Strategic Partnership** by exploring new opportunities in:

- **Digitalization**
- **Trade and economic development**
- **Cultural exchange programs**

The 60th-anniversary celebrations have laid the foundation for a new era of cooperation, ensuring mutual growth and prosperity.

### Unrest Against Martial Law in South Korea

**Context:** South Korea has recently witnessed **political turmoil** following President **Yoon Suk-yeol's declaration of martial law**, a move that sparked widespread protests and political uncertainty.



#### Key Developments:

- **Impeachment of the President:** President Yoon Suk-yeol was **impeached on December 15**, following a series of controversies and public backlash.
- **Rising Criticism:** Since assuming office in **2022**, President Yoon faced criticism over:
  - **Domestic policies** and governance.
  - Allegations of **corruption involving his wife** and interference in related investigations.
  - **Foreign policy decisions** that polarized public opinion.
- **Martial Law Declaration:** The imposition of martial law was perceived as an **attempt to undermine democracy**, leading to large-scale protests. Yoon lifted martial law a day later, but the move significantly damaged his political standing.

#### Political History of South Korea:

##### Colonial Period (1910–1945):

- South Korea was under **Japanese colonial rule**, characterized by exploitation and oppression.
- Following **World War II**, the **United States and the Soviet Union** divided Korea along the **38th parallel**, with the North under Soviet control and the South under US control.

##### Post-Independence Era:

- **Rhee Syngman's Leadership:** Supported by the United States, Rhee became South Korea's first president in **1948** but ruled as an **authoritarian leader**.
- **Student Uprising (1960):** Public protests forced Rhee to resign, ending his 12-year autocratic rule.

##### Military Coups and Dictatorship:

- **Park Chung Hee (1961–1979):** Major-General Park led a **military coup** and ruled South Korea for 18 years under the **Yushin Constitution**, which centralized power. He was assassinated in **1979**.
- **Chun Doo-Hwan (1980–1987):** Chun seized power through another military coup and **extended martial law nationwide**.
  - **Gwangju Uprising (1980):** A student-led movement against Chun's government was brutally suppressed, leaving deep scars on South Korea's democracy.
  - Authoritarian rule continued until the **June Democratic Struggle of 1987**, which paved the way for democratization.
- **Democratic Transition (1988):** The appointment of **Roh Tae-woo** as president marked the beginning of South Korea's journey as a **liberal democracy**.

#### Impact on Yoon Suk-yeol:

The memories of dictatorship remain fresh in South Korea's collective consciousness. President Yoon's **declaration of martial law** has severely impacted his political credibility, despite his decision to **revoke it a day later**.

#### Understanding Martial Law:

##### Definition

Martial law involves **temporary military control** over civilian governance, often during:



- **Emergencies** like war, rebellion, or natural disasters.
- **Civil unrest** when governments are unable to maintain order.

#### Features:

- The military assumes responsibilities such as **policing, judicial functions, and administration**.
- While it is intended as a short-term measure, it can lead to:
  - **Abuse of power.**
  - **Suppression of dissent.**
  - **Prolonged authoritarian regimes.**

#### Countries with Martial Law Provisions:

Nations like **South Korea**, the **United States**, the **Philippines**, **Pakistan**, and **Thailand** have provisions for martial law.

#### Does India Have Martial Law?

##### Legal Framework

- The term “**martial law**” is not explicitly defined in the **Indian Constitution**, but **Article 34** allows restrictions on fundamental rights in areas where martial law is in force.
- India has never officially declared martial law since independence.

#### Emergency Provisions:

Instead of martial law, India relies on **constitutional emergency provisions**:

- **Article 352:** National Emergency.
- **Article 356:** President's Rule (State Emergency).
- **Article 360:** Financial Emergency.

#### Judicial Oversight:

The **Supreme Court** has ruled that even during emergencies, certain rights, such as **habeas corpus**, cannot be entirely suspended. This ensures that any invocation of martial law remains subject to judicial scrutiny.

#### Conclusion:

Martial law is a **double-edged sword**—while it can restore order during crises, it often leads to **erosion of democratic values** and **violations of fundamental rights**. The ongoing unrest in South Korea serves as a stark reminder of its **potential for misuse**. Understanding the implications of martial law is critical for citizens to safeguard their rights and hold leaders accountable.

## Impact of Proposed US Sanctions on Russian Oil and India's Energy Landscape

**Context:** The proposed sanctions were announced by **Scott Bessent**, the US President-elect's nominee for Treasury Secretary, during a Senate confirmation hearing. The strategy underscores the United States' intent to tighten pressure on Russia amidst the ongoing Ukraine conflict, with major consequences for global oil prices and trade dynamics.



#### New Sanctions on Russian Oil:

1. **Tightened Restrictions:**
  - On **January 10, 2024**, the Biden administration introduced new sanctions targeting Russia's oil sector.
  - The incoming administration is likely to further intensify these measures, focusing on **Russian oil majors** and their global operations.
2. **Scope of Sanctions:**





- **Targeted Entities:** Companies like **Gazprom Neft** and **Surgutneftegas** are directly impacted.
- **Vessels Affected:** Sanctions extend to 183 tankers in Russia's "shadow fleet."
- **Service Providers:** Restrictions on Russia-based **oilfield service providers** are included.
- **Objective:** To sever the revenue streams funding Russia's military actions.

### 3. Compliance Deadline:

- The US **Office of Foreign Assets Control (OFAC)** has set a deadline of **February 27, 2024**, for crude oil deliveries loaded before the sanctions came into effect.

## Implications for India and Its Strategic Response:

### Impact on India:

- **Bilateral Trade Growth:** India-Russia trade reached **\$65.7 billion** in 2023-24, reflecting a significant surge.
- **Crude Oil Dependency:** Russia now accounts for **38% of India's oil imports**, up from negligible levels before the Ukraine conflict.
- **Price Cap Dynamics:** The **\$60-per-barrel price cap** imposed by G7 nations redirected Russian oil exports to Asian markets, primarily **India** and **China**.
- **Energy Security Risks:** Over **85% of India's crude oil** is imported, making cost-effective and reliable Russian oil critical to its energy strategy.

### India's Response:

#### 1. Commitment to Energy Security:

- India has prioritized energy security over geopolitical pressures.
- External Affairs Ministry spokesperson **Randhir Jaiswal** affirmed that India would continue importing Russian oil based on economic and energy needs.

#### 2. Accelerated Payments for Russian Oil:

- Indian refiners are expediting payments to avoid potential US penalties.
- Payments for **Gazprom Neft crude** are now being processed in **Rubles**, bypassing the **\$60-a-barrel price cap** introduced in 2022.

## Examining Rupee Internationalisation Amid Sanctions:

### Challenges in Rupee Trade:

- Efforts to settle India-Russia oil trade in **rupees** face obstacles, especially as stricter sanctions could hinder negotiations.
- In contrast, **Russia-China trade** in non-dollar currencies has boosted the **yuan's global presence**.

### Global Reserve Currency Trends:

- **US Dollar Dominance:** The US dollar remains the **world's leading reserve currency**, but **BRICS nations** are intensifying efforts to develop alternatives.
- **Impact of SWIFT Ban:** The US excluded Russia from **SWIFT** in 2022, accelerating global efforts to explore non-dollar transactions.

### US Perspective:

- **Scott Bessent** emphasized the need to safeguard the dollar's status as the **global reserve currency**.
- Former President Trump had previously warned **BRICS nations** of economic repercussions if they pursued a rival reserve currency.

### Conclusion:



India's strategic engagement with the US and Russia highlights its balanced approach to securing energy needs amidst geopolitical tensions. As one of Russia's top oil buyers, India continues to prioritize its **economic stability** and **energy security** while adapting to the evolving global dynamics.

By maintaining this delicate balance, India aims to navigate international sanctions while ensuring a stable and sustainable energy future.

## India's 6-Point Plan to Strengthen Economic Ties with the EU

**Context:** India has introduced a comprehensive **6-point plan** aimed at enhancing its economic partnership with the **European Union (EU)**. This initiative focuses on fostering trust, promoting fair trade, and driving technological and sustainable growth.



### The 6-Point Plan:

#### 1. Trusted Partnership:

- Foster stronger economic ties between India and the EU, benefiting a combined population of **2 billion people**.
- Build a foundation of **mutual trust** to ensure sustained cooperation and growth.

#### 2. Fair Trade Agenda:

- Work towards a mutually beneficial **Free Trade Agreement (FTA)** to eliminate **tariff** and **non-tariff barriers**.
- Prioritize the inclusion of **small enterprises, farmers, and fishermen** to ensure equitable trade practices.

#### 3. High-Quality Production:

- Adopt **EU best practices** to harmonize manufacturing standards under the vision of **"zero defect, zero effect"**.
- Focus on producing high-quality, sustainable goods for global markets.

#### 4. Technological Collaboration:

- Jointly develop **cutting-edge technologies** and secure **critical raw material supply chains**.
- Promote **fair technology sharing** to enhance resilience against non-market economies.

#### 5. Sustainable Development:

- Align trade and economic policies with **Sustainable Development Goals (SDGs)**, adhering to the principle of **common but differentiated responsibility**.
- Collaborate in areas like **renewable energy, green technologies, and environmental protection**.

#### 6. Mutual Growth:

- Leverage India's **talent pool** as a **"living bridge"** to drive shared innovation and prosperity.
- Enhance cultural and economic exchanges for mutual benefit.

### India-EU Relations: An Overview:

#### Political Cooperation:

- Historic ties:** India-EU relations date back to the 1960s, strengthened by the **1994 Cooperation Agreement**.
- Milestones:**
  - 2000:** First India-EU Summit.
  - 2004:** Upgraded to a **Strategic Partnership** at the 5th Summit in The Hague.

#### Economic Cooperation:

- Bilateral trade:** Reached **USD 137.41 billion** (2023-24), with the EU as India's largest trading partner in goods.

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- **Services trade:** Valued at **USD 51.45 billion** in 2023.

#### Sectoral Collaborations:

- **Water Management:** The **India-EU Water Partnership (IEWP)** (2016) focuses on sustainable water frameworks.
- **Nuclear Energy:** Agreement signed in 2020 for R&D on the peaceful use of nuclear energy.
- **Trade and Technology Council (TTC):** Launched in 2023 to advance collaboration on trade, technology, and security.

#### Challenges in India-EU Collaboration:

1. **Legacy Trade Issues:**
  - Persistent disputes over **tariffs, non-tariff barriers, and standards harmonization.**
2. **Technology Transfer:**
  - Misalignment in **intellectual property rights (IPR)** and challenges in equitable technology sharing.
3. **Critical Raw Materials:**
  - **Geopolitical tensions** and competition for resources hinder smooth cooperation in securing vital materials.

#### Way Forward:

1. **Accelerate FTA Negotiations:**
  - Address key issues like **market access, trade facilitation, and dispute resolution mechanisms.**
2. **Enhanced R&D Partnerships:**
  - Establish **joint research centers** and **innovation hubs** to drive technological progress.
3. **Sustainability Focus:**
  - Invest in **green technologies** and **renewable energy** to achieve long-term economic and environmental benefits.

#### Conclusion:

India's **6-point plan** offers a clear and strategic framework for deepening its partnership with the EU. By addressing core challenges such as trade barriers, technology sharing, and sustainability, this collaboration can unlock immense potential for **global economic stability** and **resilience**. Together, India and the EU have the capacity to shape a more equitable, sustainable, and prosperous future.

## India's Strategic Response to Trump's Presidency

**Context:** India's External Affairs Minister, **S. Jaishankar**, has embarked on a crucial mission to Washington, prioritizing bilateral ties, regional security, and economic collaboration as key pillars of India-U.S. relations during the Trump presidency.

#### Key Priorities for Jaishankar's Washington Visit:

##### 1. Early Modi-Trump Meeting:

- Strengthen the **personal rapport** between Prime Minister **Narendra Modi** and President **Donald Trump**, established during Trump's first term.
- Focus on **defense cooperation, energy security, and counter-terrorism** to lay the groundwork for high-level bilateral engagements in the coming years.





## 2. Quad Summit and Regional Security:

- Reinforce the **Quad alliance** (India, U.S., Japan, and Australia) to ensure a **free and open Indo-Pacific**, aligning with India's **Act East Policy**.
- Promote **peace, stability, and connectivity** in the Indo-Pacific region to counterbalance China's growing influence.

## 3. Trade and Economic Collaboration:

- Address unresolved **tariff issues**, such as U.S. duties on Indian **steel and aluminum**, and advocate for fair trade practices.
- Explore synergies in **emerging technologies** like artificial intelligence, semiconductors, and cybersecurity.

## 4. Immigration and Talent Mobility:

- Advocate for **smoother visa processing** and address restrictions impacting **Indian professionals** working in the U.S.
- Strengthen ties with the **Indian-American diaspora**, a vital link in the India-U.S. relationship.

## Strategic Significance of the Agenda:

### 1. Addressing Geopolitical Shifts:

- Counter China's **assertiveness in Asia**, particularly in the **Indo-Pacific** region, by enhancing Quad cooperation.
- Promote **regional peace and connectivity** through a strong maritime security framework.

### 2. Economic Synergy:

- Expand collaboration in emerging sectors like **artificial intelligence, semiconductors, and renewable energy**, leveraging India's growing status as a **global tech hub**.

### 3. Reinforcing Shared Values:

- Reaffirm India and the U.S.'s commitment to **democracy** and a **rules-based international order**, strengthening their strategic partnership.

## Challenges Ahead:

1. **Trade and Tariff Disputes:** Persistent disagreements over **tariffs** and **non-tariff barriers** remain unresolved.
2. **Immigration Restrictions:** Challenges such as **U.S. visa caps** and delays hinder the mobility of Indian professionals.
3. **Geopolitical Divergences:** Differences in **global conflict stances**, like on **Russia**, may test bilateral cooperation.
4. **Technology Barriers:** Restrictions on **sensitive technology transfers** limit potential in defense collaboration.
5. **Domestic Pressures:** Political and economic constraints in both nations could impact policy priorities.

## Way Forward:

1. **Streamline Trade Agreements:** Focus on reducing trade barriers to maximize **mutual economic benefits**.
2. **Advance Immigration Reforms:** Develop frameworks to enhance **talent mobility** and improve **visa efficiency**.
3. **Strengthen Quad Engagement:** Expand cooperation on **regional connectivity** and **maritime security initiatives**.
4. **Promote Renewable Energy Ventures:** Collaborate on **clean and sustainable energy technologies**, aligning with global climate goals.
5. **Frequent High-Level Dialogues:** Establish regular **high-level engagements** to address emerging challenges and seize opportunities.

## Conclusion:

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Minister **S. Jaishankar's Washington agenda** reflects India's **strategic vision** to enhance its relationship with the U.S. by tackling critical issues like trade, immigration, and regional security. This forward-looking approach underscores India's commitment to a **robust partnership**, turning challenges into opportunities and fostering a future of **shared prosperity and global leadership**.

## World Bank on Indus Water Treaty Dispute

**Context:** The World Bank-appointed **Neutral Expert** has declared their competence to resolve differences between **India** and **Pakistan** regarding hydroelectric projects on the **Indus** and its tributaries.

### Indus Water Treaty (IWT):

#### Overview:

- Signed in **1960**, the **Indus Water Treaty** governs water-sharing arrangements between **India** and **Pakistan**.
- The treaty was brokered by the **World Bank**.

#### Allocation of Rivers:

1. **Eastern Rivers (India):** Ravi, Beas, and Sutlej allocated exclusively to India.
2. **Western Rivers (Pakistan):**
  - **Indus, Jhelum, and Chenab** allocated to Pakistan, with limited usage rights for India, including:
    - **Non-consumptive use** (e.g., navigation, fisheries).
    - **Domestic use.**
    - **Agricultural use.**
    - **Hydroelectric power generation** (under specific conditions).

#### Key Features:

1. **Allocation of Water:** Pakistan receives **80%** of the Indus system's water.
2. **Permanent Indus Commission (PIC):** Comprising representatives from both countries to oversee treaty implementation and resolve disputes.
3. **Dispute Resolution Mechanism:**
  - **Questions:** Addressed by the PIC.
  - **Differences:** Handled by a **Neutral Expert**.
  - **Disputes:** Resolved by a **Court of Arbitration (CoA)**.
  - The **World Bank's role** includes appointing officials for these mechanisms when requested.

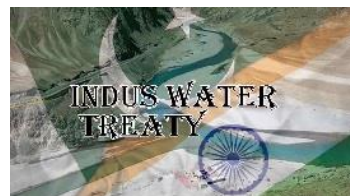
#### Key Disputes Between India and Pakistan:

##### Pakistan's Objections:

- Pakistan opposes several Indian hydroelectric projects, claiming potential violations of treaty provisions.
- Major disputes involve:
  1. **Kishanganga Hydroelectric Project:** Located on the **Kishanganga River** (Neelum, a tributary of Jhelum).
  2. **Ratle Hydroelectric Project:** Located on the **Chenab River**.
- The disagreement centers on whether the technical details of these projects adhere to treaty guidelines.

#### World Bank's Role:

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- The **Neutral Expert's** recent declaration prevents escalation to a **Court of Arbitration (CoA)**, as sought by Pakistan.
- India has welcomed the Neutral Expert's involvement as a constructive step toward resolution within the framework of the treaty.

### Indus River System:

#### Origin of the Indus River:

- The **Indus River** originates at **Bokhar Chu** in the Tibetan region, near **Mansarovar Lake**.
- Locally known as **Singi Khamban** (Lion's Mouth).
- It enters **India** at **Demchok** in the **Ladakh** region.

#### Tributaries:

1. **Left Bank Tributaries:** Zaskar, Suru, Soan, Jhelum, Chenab, Ravi, Beas, Sutlej, and Panjnad Rivers.
2. **Right Bank Tributaries:** Shyok, Gilgit, Hunza, Swat, Kunnar, Kurram, Gomal, Tochi, and Kabul Rivers.

#### Key Hydroelectric Projects on Western Rivers:

##### Indus River:

- **Nimmo-Bazgo** (Leh).
- **Stakna** (Leh).

##### Chenab River:

- **Baglihar Stage-I** (Doda).
- **Chenani Project** (Tawi River, Udhampur).
- **Dulhasti** (Doda).

##### Jhelum River:

- **Uri-I & II** (Baramulla).
- **Ganderbal** (Srinagar).
- **Upper Sindh I & II** (Sindh Nallah, tributary of Jhelum).

#### Implications of the Dispute:

1. **India's Stance:** Neutral Expert's involvement reaffirms India's adherence to the treaty.
2. **Pakistan's Concerns:** Fear of water shortages due to Indian hydroelectric projects.
3. **Bilateral Relations:** The dispute continues to strain India-Pakistan ties.

#### Conclusion:

The **Indus Water Treaty** remains a vital framework for India-Pakistan water-sharing. While disputes have tested its resilience, the involvement of the **World Bank** and its Neutral Expert offers an opportunity for peaceful resolution. Both nations must prioritize cooperation to ensure sustainable and equitable water management in the region.

## US Withdrawal from the Paris Agreement: Implications and Global Consequences

**Context:** In a controversial move, **US President Donald Trump** once again decided to withdraw the United States from the **Paris Agreement**, a decision he initially made in 2017. This decision marks a significant shift in the US's approach to climate action, as it reverts to a policy that prioritizes national energy production over global environmental commitments.



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Page No

34



## Trump's Climate Policy: A Reversal of Progress:

On his first day in office, **Trump** also ordered the **revocation** of all climate finance commitments made by the US, undoing the progress made under his predecessor, **Barack Obama**. He emphasized his goal to **extract more oil and gas** for America's energy needs, while rolling back several climate-friendly policies enacted in previous years.

## Background: Shifting Positions on Global Climate Agreements

While Trump took the US out of the Paris Agreement, his successor, **Joe Biden**, rejoined the accord in 2021. The US also had a longstanding history of resistance to international climate protocols—the **Kyoto Protocol** (1997)—which it signed but never ratified.

## The Paris Agreement: A Global Climate Commitment:

The **Paris Agreement**, adopted in 2015 during COP21 under the **UN Framework Convention on Climate Change (UNFCCC)**, is a **legally binding** treaty designed to combat climate change. Its primary goals are to limit global warming to **below 2°C** above pre-industrial levels, with an aspirational goal of limiting it to **1.5°C**.

- **Nationally Determined Contributions (NDCs)**: Countries must outline and update their climate actions every five years to progressively enhance efforts.
- **Withdrawal Procedure**: According to **Article 28**, a country may withdraw after three years from the agreement's enforcement by providing a written notification.

## Trump's Rationale: Unfair Global Regulations:

Trump's decision to exit the agreement was largely motivated by his belief that **international climate regulations** were **unfair** to the US. He specifically criticized the lack of similar restrictions placed on **China**, which, as a developing nation, had fewer binding commitments under the agreement.

## Implications of the US Withdrawal

### 1. Emission Targets and Climate Goals:

- The US had set ambitious **emission reduction targets**, aiming for a **50-52%** decrease by 2030 (from 2005 levels) and **62-66%** by 2035. However, under Trump's policies, the US is on track to miss these goals, potentially making it almost impossible to meet them within the given timeframe.

### 2. Impact on Global Emissions:

- As the **second-largest emitter** of greenhouse gases globally, the **US's** full participation is essential to the success of the **Paris Agreement**. Without it, the global effort to reduce **carbon emissions** faces an uphill battle.

### 3. Fossil Fuel Production Surge:

- Trump's explicit commitment to **increase fossil fuel production**—including drilling for **oil** and gas in previously restricted areas—may lead to a rise in emissions and an overall **increase in global warming**.

### 4. Climate Finance for Developing Nations:

- The US plays a central role in **funding climate action** for developing countries. Trump's policies may undermine the flow of **climate finance**, putting vulnerable nations at greater risk of environmental disaster.

### 5. Global Impact: A Ripple Effect:

- Experts fear that the **US withdrawal** could encourage other major **emitters**, particularly **China**, to ease off their own climate commitments, undermining global progress on **carbon reduction**.

## The Urgent Need for Climate Action:

As global temperatures rise, the world has already warmed by approximately **2.3°F (1.3°C)** since the mid-1800s. The year 2020 recorded the **warmest** year on record, with temperatures surpassing **2.7°F (1.5°C)** above pre-industrial levels.



- The **US's contribution** to global warming is substantial—accounting for nearly **22%** of global carbon emissions since 1950, making it one of the largest historical polluters. With this immense responsibility, the US must be a key player in **combating climate change**.

### Conclusion: The Path Forward

While **Trump's** withdrawal from the Paris Agreement represents a setback, the **US** can still play a pivotal role in combating climate change. Focusing on the **clean energy industry**, **innovation in energy technologies**, and **reducing energy costs** could drive the US toward a more sustainable and climate-conscious future. The world will be watching to see if the US shifts its stance back to **climate leadership** in the coming years.

## India Becomes Kenya's Largest Tea Importer

**Context:** India has emerged as the **largest importer of tea from Kenya**, with imports increasing by **288%**, from **3.53 million kg** (January-October 2023) to **13.71 million kg** in the same period of **2024**.



### India's Tea Industry: Current Status:

1. **Global Position:**
  - **2nd Largest Tea Producer:** India accounts for **21%** of global tea production, ranking just after China.
  - **4th Largest Exporter:** Contributes **12%** of global tea exports.
2. **Export Statistics:**
  - Exports rose from **184.46 million kg** (January-October 2023) to **209.14 million kg** during the same period in 2024.
  - **Top Export Destinations:** UAE, Russia, Iran, U.S., and U.K.
3. **Domestic Consumption:** **80% of production** is consumed domestically, supported by India's widespread tea-drinking culture.
4. **Regional Production:**
  - **Assam:** Produces **55%** of India's tea, making it the largest tea-producing state.
  - **2024 Decline:** Total tea production dropped by **50 million kg**, with Assam alone losing **20 million kg**.

### Significance and Potential of Indian Tea:

1. **Economic Contributions:**
  - Provides **extensive employment opportunities**, particularly in rural regions.
  - Generates **foreign exchange** and significant government revenue.
2. **Global Reputation:**
  - Known for **strong geographical indications** (e.g., Darjeeling Tea).
  - Equipped with **advanced processing facilities** and innovative products that enhance global competitiveness.
3. **Growth Potential:**
  - Expanded **product mixes** and **value-added tea** offerings (e.g., organic, flavored tea).
  - Increased focus on **premium international markets**.

### Challenges Facing India's Tea Industry:

1. **Stagnant Prices and Oversupply:** Demand-supply imbalances have led to **price stagnation**, reducing profitability.

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Page No

36





2. **Cheaper Imports:** Influx of low-cost teas has caused **quality concerns** and a **decline in export appeal**.
3. **Rising Input Costs:** Higher costs of fertilizers, labor, and logistics have strained tea estates, leading to closures or dependence on subsidies.

#### About Tea:

1. **Botanical Background:** Tea comes from an **evergreen flowering plant**, prized for its leaves and buds.
2. **Cultivation Requirements:**
  - **Soil:** Well-drained with high organic content and a pH of 4.5–5.5.
  - **Climate:** Thrives in **tropical and subtropical regions**.
3. **History in India:** Introduced by British colonists about **three centuries ago**.
4. **Geographic Spread:**
  - Primarily grown in **Northeast India** and **West Bengal**.
  - Other tea-growing regions: **Karnataka, Kerala, Tamil Nadu, and Uttar Pradesh**.
  - **Darjeeling Tea:** India's first **Geographical Indication (GI)** product.

#### Tea Board of India:

1. **Overview:**
  - A statutory body under the **Ministry of Commerce**, established through the **Tea Act of 1953**.
  - Replaced the **Central Tea Board** and the **Indian Tea Licensing Committee**.
2. **Composition:** Comprises **31 members**, including a Chairman, MPs, tea producers, brokers, consumers, and trade unions.
3. **Functions:**
  - **Domestic & International Promotion:** Boost Indian tea's global footprint.
  - **Regulation:** Ensures compliance with international standards like the **International Tea Agreement**.

#### Recommendations for Strengthening the Indian Tea Industry:

1. **Boost Exports:** Focus on **value addition** to attract premium buyers and increase revenues.
2. **Technology Integration:**
  - Leverage **blockchain** for **supply chain transparency**.
  - Invest in **research and development** to improve yields and product quality.
3. **Global Marketplaces:** Develop a **global e-marketplace** to connect tea growers with buyers directly.
4. **Sustainable Practices:** Promote **eco-friendly cultivation** and **organic farming** to ensure long-term viability.
5. **Policy Support:** Provide **targeted subsidies, financial incentives, and skill development programs** to sustain tea estates.

#### Conclusion:

India's emergence as Kenya's largest tea importer underscores the dynamic nature of the global tea market. While the Indian tea industry holds a strong position globally, addressing challenges like stagnant prices, rising input costs, and quality concerns is vital. By leveraging technology, enhancing exports, and promoting sustainability, India can strengthen its tea sector and secure long-term growth.

### India and Indonesia: Strengthening Bilateral Relations

**Context:** Indonesian President **Prabowo Subianto's visit to India** as the chief guest for India's **76th Republic Day celebrations** marks a significant milestone in the bilateral relationship, reflecting the strong and evolving partnership between the two nations.



#### Historical and Cultural Bonds:

##### 1. Ancient Connections:

- India and Indonesia share over **2,000 years of cultural and historical ties**, shaped by the spread of **Hinduism, Buddhism**, and later **Islam** from India to Indonesia.
- The **Ramayana** and **Mahabharata** continue to influence Indonesian art, culture, and folklore.

##### 2. Post-Independence Collaboration:

- Both nations emerged as independent states with shared goals of **political sovereignty, economic self-reliance**, and a commitment to the **Non-Aligned Movement (NAM)**.

#### Strategic and Diplomatic Engagements:

##### High-Level Visits and Agreements:

##### 1. 2018 Milestone:

- PM **Narendra Modi's visit to Jakarta** resulted in the signing of a **Comprehensive Strategic Partnership** and a shared vision for **Indo-Pacific maritime cooperation**.

##### 2. 2024 Engagements:

- PM Modi and President Prabowo Subianto held talks during the **G20 Summit**, focusing on **economic cooperation, regional stability**, and **security frameworks**.

#### Defense and Security Cooperation:

##### 1. Joint Exercises:

- Garuda Shakti** (Army), **Samudra Shakti** (Navy), and coordinated patrols (**IND-INDO CORPAT**) enhance military collaboration.

##### 2. Defense Industry Collaboration:

- The **India-Indonesia Defense Industry Exhibition (2024)** showcased opportunities in **defense technology** and **manufacturing**, emphasizing regional security in the **Indo-Pacific**.

#### Economic and Trade Relations:

##### Bilateral Trade:

##### 1. Trade Volumes:

- In **2023-24**, bilateral trade stood at **\$29.4 billion**, making Indonesia India's **second-largest trading partner in ASEAN**.
- Major Imports:** Coal, crude palm oil, rubber.
- Major Exports:** Refined petroleum, telecommunications equipment, agricultural products.

#### Investments and Connectivity:

##### 1. Indian Investments:

- Over **\$1.56 billion** invested in **mining, textiles**, and **infrastructure**.

##### 2. Connectivity:

- Direct flights between cities like **Mumbai-Jakarta** and **Delhi-Bali** boost **tourism** and **people-to-people ties**.



## Cultural and Educational Collaboration:

### Cultural Initiatives:

1. **Indian Cultural Centers:** Operate in **Jakarta** and **Bali**, promoting **yoga**, **classical dance**, and **music**.
2. **Shared Celebrations:** Joint events like **International Yoga Day** and heritage conferences strengthen cultural exchanges.

### Educational Cooperation:

1. **Scholarships:**
  - Indian programs like **ITEC** and **ICCR** support Indonesian students, fostering **academic partnerships**.
2. **Future Collaboration:** Discussions on **MoUs** in higher education aim to deepen ties in **knowledge sharing**.

### Multilateral Cooperation:

#### India and Indonesia collaborate in platforms like:

- **G20, ASEAN, and IORA**, focusing on:
  - **Maritime Security:** Securing the Indo-Pacific region.
  - **Sustainable Development:** Addressing climate and resource challenges.
  - **Regional Stability:** Tackling shared geopolitical concerns.

### Future Prospects:

1. **75 Years of Diplomacy:**
  - Celebrations in **2024** highlighted the nations' shared history and future aspirations.
2. **Strengthened Collaboration:**
  - Enhanced **trade**, **defense**, and **cultural partnerships** are crucial for growth and stability in the **Indo-Pacific region**.

### Conclusion:

The **India-Indonesia relationship** is a testament to deep historical ties and forward-looking strategic collaboration. As vibrant democracies and emerging economies, their partnership plays a pivotal role in shaping regional and global dynamics, ensuring peace, prosperity, and sustainable growth.

## Is France's Influence in West Africa Coming to an End?

**Context:** In recent developments, **Chad**, **Ivory Coast**, and **Senegal** have called for the **withdrawal of French troops** from their territories. This marks a potential turning point in **France's historical influence** over its former colonies in West Africa, raising questions about the future of the region's political landscape.



### Why Are These Countries Requesting the Withdrawal?

1. **National Sovereignty: A Call for Autonomy:** Since gaining independence, many **West African countries** have grappled with the heavy presence of **French influence**, particularly through **colonial pacts** such as '**Francafrique**'. France's military footprint, including **Operation Barkhane**, has been prominent in **Senegal** and **Ivory Coast** since 2014, and **Chad's defense pact** has lasted for decades. However, many view this continued military presence as a challenge to their **national sovereignty**, calling for a reevaluation of these longstanding ties.
2. **Public Frustration with French Military Efforts:** Despite **French military involvement** aimed at curbing insurgent groups aligned with **Al-Qaeda** and the **Islamic State (ISIS)**, instability in the region has persisted. **Public**

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**sentiment** has soured, with increasing frustration toward the **French forces** and their failure to stabilize the situation. This has led to growing **anti-French sentiments** among the local populations.

3. **Shifting Alliances and the Influence of Russia:** Countries in the region, including **Mali** and **Niger**, have begun to seek alternative forms of support, notably from **Russian mercenaries**. These new alliances, characterized by security assistance without the “**baggage**” of **democratic values** associated with Western powers, are seen as a possible shift away from traditional French influence.

#### Implications for West African Countries:

1. **The End of France’s Longstanding Influence:** Should **French troops withdraw**, the resulting **political vacuum** could drastically shift the **power dynamics** in the region. Countries that have long relied on France for military and economic support may now look to forge new **regional or global alliances** to secure their futures.
2. **Continued Instability Despite New Alliances:** While countries like **Mali**, **Niger**, and **Burkina Faso** are turning to **Russian mercenaries**, their success in quelling insurgencies has been limited. **Military-led governments** in these nations, despite their alignment with Russia, have yet to effectively stabilize the region, showing that the solution may not lie in simply replacing one foreign influence with another.
3. **Formation of New Alliances in the Sahel:** With **French departure**, countries like **Chad**, **Senegal**, and **Ivory Coast** could find themselves aligning with the **Alliance of Sahel**—a coalition of **military-led governments** in the region. This could bring about a new **regional bloc** of nations focused on security, though their ability to maintain stability remains uncertain.

#### Geographic Overview of Key Countries Involved:

- **Chad:** A **landlocked** country bordered by **Libya**, **Sudan**, **Central African Republic**, **Cameroon**, **Nigeria**, and **Niger**. Its capital is **N'Djamena**.
- **Senegal:** Located on the **Atlantic Ocean**, it shares borders with **Mauritania**, **Mali**, **Guinea**, and **Guinea-Bissau**. Its capital is **Dakar**.
- **Ivory Coast (Côte d'Ivoire):** Situated along the **Gulf of Guinea**, bordered by **Mali**, **Burkina Faso**, **Ghana**, **Liberia**, and **Guinea**.

#### Conclusion: A New Era for West Africa?

The **request for French troop withdrawals** signals a fundamental shift in **West Africa’s geopolitics**. With countries seeking greater autonomy and forming new alliances, the future of **France’s influence** in the region hangs in the balance. As local populations demand more control over their affairs, the next chapter in **West African politics** could be defined by shifting allegiances and the rise of new power centers.

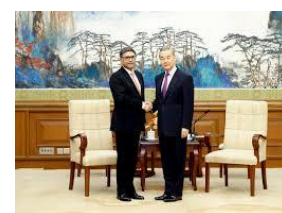
## India-China Relations: 75 Years of Diplomatic Ties

**Context:** In a notable development, **India and China** have announced the **resumption of the Kailash Mansarovar Yatra** this summer, aligning with the **75th anniversary** of their diplomatic relationship.

### Historical Evolution of India-China Relations

#### Early Diplomatic Engagement

- India was one of the **first nations** to recognize the **People’s Republic of China** in **1950**, officially establishing diplomatic ties on **April 1, 1950**.







- The relationship initially thrived on mutual goodwill, symbolized by the famous slogan ‘**Hindi-Chini Bhai Bhai**’ (India and China are brothers).

### Key Milestones in Bilateral Relations

- **Panchsheel Agreement (1954):** The five principles of **peaceful coexistence** laid the foundation for future diplomatic interactions.
- **Sino-Indian War (1962):** The border conflict led to a severe breakdown in relations.
- **Normalization Efforts (1988-1993):** Prime Minister **Rajiv Gandhi’s** visit to China in **1988** marked a thaw, leading to agreements promoting **peace and stability** along the border.
- **Trade Boom (2000s):** Bilateral trade surged, making **China one of India’s largest trading partners**.
- **Border Clashes (2017 & 2020):** The **Doklam standoff (2017)** and **Galwan Valley clashes (2020)** reignited tensions.
- **Recent Diplomatic Engagements (2023-2024):** Both nations have sought to manage differences through **ongoing diplomatic dialogues**.

### 75th Anniversary: Recent Developments & Diplomatic Talks

#### Foreign Secretary’s Visit to China (2025)

- **Border Stability:** Agreement to maintain **peace and order** along the **Line of Actual Control (LAC)**.
- **Economic Cooperation:** Discussions on **enhancing trade and investment** ties.
- **Cultural Exchanges:** Plans to **resume cultural programs** and **educational collaborations**.

#### China’s Call for Stable Ties

- China stressed the need for **constructive conflict resolution** to ensure a stable relationship.
- The **Chinese Foreign Ministry** underscored the importance of **de-escalation** along the **LAC**.

#### Restoring Air Connectivity

- India and China agreed to **resume direct flights** after a five-year hiatus.
- This move aims to **boost people-to-people interactions** and **enhance mutual understanding**.

### Challenges in India-China Relations

#### Border Disputes

- Despite continued **diplomatic talks**, unresolved issues in **Ladakh and Arunachal Pradesh** remain a **major concern**.
- The **2020 Galwan clashes** are a stark reminder of persistent **border tensions**.

#### Trade Imbalance

- Bilateral trade surpassed **\$125 billion in 2024**, reflecting a **1.9% growth** year-on-year.
- However, **India’s trade deficit** with China remains a challenge.
- India is pushing for **greater market access** for its **IT and pharmaceutical sectors**.

#### Geopolitical Rivalry

- India’s increasing collaboration with the **QUAD alliance (US, Japan, Australia)** is viewed with suspicion by China.



- China's **Belt and Road Initiative (BRI)** remains a contentious issue, conflicting with India's **regional connectivity vision**.

### Path Forward: Opportunities for Cooperation

#### Boosting Economic Ties

- Strengthening collaboration in **renewable energy, digital technology, and infrastructure development** can benefit both nations.
- Addressing **trade imbalances** through mutually beneficial agreements is essential.

#### Enhancing Cultural & Educational Exchanges

- Encouraging **student exchanges, tourism, and academic collaborations** can bridge cultural gaps.

#### Sustained Diplomatic & Military Dialogue

- Regular engagement** between military and diplomatic channels is crucial to preventing conflicts.
- Implementing **confidence-building measures (CBMs)** along the **LAC** can foster trust.

### Conclusion

As **India and China** commemorate **75 years of diplomatic ties**, their relationship remains a blend of **cooperation and competition**.

- While challenges persist in **border disputes and trade**, avenues for **economic and diplomatic collaboration** continue to grow.
- The future of **India-China relations** will depend on how effectively both nations can **balance strategic differences with economic and cultural engagement**.

## Paris AI Summit 2024: Governance, Innovation, and Global AI Leadership

**Context:** Global leaders will convene in **Paris** on **February 10, 2024**, for the **AI Action Summit**, where the focus will be on **regulating AI** while ensuring its **innovation** isn't stifled. This pivotal summit builds on previous global efforts, including the **2023 AI Safety Summit** in **Bletchley Park** and the **2024 AI Seoul Summit**.



### 2023 Bletchley Declaration: Setting the Stage for AI Safety:

The **2023 AI Safety Summit** in **Bletchley Park** marked a key milestone in global AI regulation. The **Bletchley Declaration**, signed by **28 countries** and the **EU**, underscored AI's immense potential and risks. It called for alignment with **human intent**, safeguarding **rights**, and ensuring **ethics, safety, and accountability** in AI development. The declaration also emphasized the **role of civil society** and the responsibility of **developers** to test and mitigate AI risks.

### 2024 AI Seoul Summit: Building a Shared Global Vision

Held in **May 2024**, the **AI Seoul Summit** was co-hosted by the **Republic of Korea** and the **UK government**. The summit laid the groundwork for global discussions on **AI safety, innovation, and inclusivity**, while agreeing on **minimum guardrails** and a **roadmap** for ensuring AI safety across nations.

### About the Paris AI Summit: France Takes the Lead

Initiated by **French President Emmanuel Macron**, the **Paris AI Summit 2024** is a cornerstone event focused on **global AI governance**, innovation, and advancing the **public interest**. Indian Prime Minister **Narendra Modi** will co-chair the summit, adding further weight to the discussions.



### Key Objectives of the Summit:

The summit seeks to address the growing **concentration of power** within the AI market, particularly the dominance of foundational AI models controlled by tech giants such as **Microsoft, Alphabet, Amazon, and Meta**.

### Event Structure: A Platform for Multilateral Collaboration

- **February 10 – Multistakeholder Forum:** This day will feature conferences, roundtables, and presentations by global representatives from **governments, businesses, civil society, and researchers**.
- **February 11 – Summit of Heads of State and Government:** **World leaders** will gather at the **Grand Palais** to chart out key collaborative actions for AI governance and regulation.

### Paris Summit and Europe's AI Challenge: Bridging the Gap

The **Paris AI Summit** holds particular significance for **Europe**, as it faces growing concerns about being overshadowed by **American tech giants** and **Chinese state power** in the **AI race**. Despite regulatory barriers hindering Europe's growth, **President Macron's initiative** represents an effort to ensure Europe does not fall behind in AI development.

### US AI Ambitions:

The summit comes on the heels of the **Stargate Project**—a **\$500 billion initiative** in the **US** involving companies like **OpenAI, SoftBank, Oracle, Microsoft, and Nvidia**, aimed at strengthening the nation's **AI infrastructure** and capabilities over the next four years.

### China's Rapid AI Advancements:

Despite efforts to curb China's AI progress, companies like **DeepSeek** and **Alibaba** have demonstrated the **competitive edge** of Chinese AI models, showing that China is a formidable player in the global AI landscape.

### Diverse Global Approaches to AI Regulation:

As AI continues to evolve, global policymakers are grappling with how to **regulate AI** without hindering its potential. Different regions are adopting varying approaches based on local priorities and concerns:

- **European Union:** **Strict, use-based regulation** that categorizes AI based on its **use case**, invasiveness, and risks, signaling Europe's cautious approach to AI governance.
- **United Kingdom:** A **light-touch approach** that encourages innovation with minimal regulatory barriers, allowing for a **growth-friendly** environment.
- **United States:** A **balanced approach**, positioned between strict regulation and fostering innovation, though the regulatory stance could shift in the future.
- **China:** Structured regulatory measures ensuring AI development is aligned with **state interests**, while balancing innovation with oversight.
- **India:** Focus on ensuring **safety, trust, and ethical use** of AI, while addressing concerns like the **weaponization** of technology.

### Conclusion: The Road Ahead for Global AI Governance

The **Paris AI Summit 2024** stands as a pivotal moment for **AI governance**, bringing together **global leaders, innovators, and policymakers** to shape the future of AI in a way that balances **innovation, ethics, and public safety**. With **competing global powers** shaping the AI landscape, the outcomes of the summit could be instrumental in determining the trajectory of **AI regulation**, ensuring it serves both technological progress and **global well-being**.

### U.S. Suspends Foreign Aid: A Shift in Global Diplomacy and Development Assistance

**Context:** The **United States** has announced the **suspension of foreign aid**, marking a significant policy shift under **President Donald Trump's executive order**. This decision aligns with the "**America First**" agenda, which seeks to prioritize **U.S. national interests** over traditional international financial commitments. The U.S. has long been one of the world's largest donors, distributing **\$45 billion in foreign aid in 2023** alone, benefiting **158 countries** worldwide.



**What is Foreign Aid?**- Foreign aid encompasses **financial, technical, or material assistance** provided by one country to another, typically to:

- **Promote economic development**
- **Provide humanitarian relief**
- **Achieve geopolitical goals**

This assistance often comes in the form of **grants, loans, or in-kind contributions** such as **food, medicine, or infrastructure development**.

#### Significance of Foreign Aid: Why It Matters

Foreign aid plays a pivotal role in shaping global development and diplomacy:

- **Promotes Development:** Helps nations improve **infrastructure, education, healthcare, and economic opportunities**.
- **Humanitarian Relief:** Provides essential support during **crises**, such as **natural disasters or conflicts**, saving countless lives.
- **Fosters Diplomacy:** Strengthens relationships between **donor and recipient countries**, promoting international cooperation.
- **Geopolitical Strategy:** Expands influence, secures alliances, and advances **national interests** in strategically important regions.
- **Global Stability:** Addresses pressing challenges like **poverty, climate change, and pandemics**, fostering a more stable global order.

#### Global Implications: The Ripple Effects of U.S. Aid Suspension

##### Impact on Aid-Dependent Countries:

Countries that heavily rely on U.S. aid—such as **Afghanistan, Pakistan, and Bangladesh**—may experience significant **financial shortfalls** and setbacks in **developmental goals**. This reduction in assistance could jeopardize ongoing **healthcare and education** projects, as well as efforts to combat **poverty**.

##### Shift in Global Alliances:

As the U.S. steps back from its foreign aid commitments, **recipient countries** may turn to alternative sources of funding, such as **China**. **China's Belt and Road Initiative** has already provided infrastructure support in many developing nations, which could lead to a **shift in geopolitical alliances**. However, concerns about **China's debt trap diplomacy**, where countries fall into unsustainable debt due to large loans, have raised **sovereignty** concerns in many regions.

##### Role of Other Donors:

Countries like **China** and **Russia** could fill the void left by reduced U.S. aid. China's growing influence through economic assistance could reshape the development landscape, although some nations remain wary of the long-term implications of accepting large loans.

#### Global Stability and the Balance Between Humanitarian Aid and Strategy:

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Foreign aid often serves a dual purpose, balancing **humanitarian** objectives with **strategic** goals. The suspension of U.S. aid may exacerbate challenges in vulnerable regions, potentially **undermining global stability** and worsening **poverty** and **instability**.

### Social Impact: A Growing Concern

The suspension of foreign aid could lead to dire **social consequences** for the most vulnerable populations in recipient countries. **Humanitarian crises** could worsen, affecting millions of lives, and the reduction in support could reverse years of progress in health, education, and poverty alleviation efforts.

### Conclusion: A Shift in Global Power Dynamics

The suspension of U.S. foreign aid is a significant development with far-reaching **political, economic, and social consequences**. While it may lead to a reshaping of global alliances and a reduction in U.S. influence, the shift also underscores the increasing role of **emerging powers** like **China** in the realm of international aid. As the world adapts to these changes, the balance between **humanitarianism** and **geopolitical strategy** will remain at the heart of the global discussion on foreign assistance.

## India-Oman FTA Agreement Talks: Strengthening Bilateral Trade and Strategic Cooperation

**Context:** The **Commerce and Industry Minister** of India is set to travel to **Oman** to provide “further impetus” to the ongoing talks on the **Free Trade Agreement (FTA)**. These discussions aim to boost trade and investment relations between the two nations, with a focus on advancing the **Comprehensive Economic Partnership Agreement (CEPA)**, a strategic initiative to deepen bilateral economic cooperation.



### What is a Free Trade Agreement (FTA)?

A **Free Trade Agreement (FTA)** between two trading partners aims to:

- **Significantly reduce or eliminate customs duties** on a wide range of traded goods.
- **Ease norms** for trade in services and promote **investment** flows.

These agreements create opportunities for mutual growth by eliminating trade barriers and fostering economic ties between nations.

### India-Oman Bilateral Trade and Economic Ties:

Oman stands as a key trading partner for India within the **Gulf Cooperation Council (GCC)**. Some key highlights of their relationship include:

- **Trade Relations:** Oman is India’s **30th largest trading partner** with a total trade volume of **US\$ 8.947 billion** in **FY 2023-2024**.
- **India's Oil Imports:** India is the **4th largest market** for Oman's crude oil exports as of **2023**.

This visit underlines India’s commitment to enhancing these ties and its focus on **increasing bilateral trade** with Oman.

### Defence and Maritime Cooperation:

India and Oman have a robust **defence cooperation** framework, which includes:

- **Bilateral Exercises:**
  - **Army Exercise:** Al Najah
  - **Air Force Exercise:** Eastern Bridge
  - **Naval Exercise:** Naseem Al Bahr



- **Maritime Cooperation:** Oman's strategic location at the gateway to the **Strait of Hormuz** is vital for India, as **one-fifth of India's oil imports** pass through this route.

Additionally, the **Duqm Port** in Oman, which India gained access to in **2018**, enhances its maritime connectivity and regional presence, especially in proximity to Iran's **Chabahar Port**.

#### About the Gulf Cooperation Council (GCC):

The **GCC** is an economic and political alliance of **six Middle Eastern countries**: Saudi Arabia, Kuwait, the UAE, Qatar, Bahrain, and Oman. Established in **1981**, it aims to strengthen unity among members based on common objectives rooted in **Arab** and **Islamic cultures**. The presidency of the council rotates annually.

#### The Way Ahead: Strategic and Economic Convergence

India's growing ties with Gulf countries, particularly Oman, are driven by **realpolitik** and strategic interests. Both sides are willing to overlook ideological differences in favor of **economic and security cooperation**.

#### Key areas of focus for future cooperation include:

- **Defense Industrial Cooperation:** India and Gulf states will likely see increased collaboration in defense technology and industrial partnerships.
- **Technology Transfers:** Long-term strategic cooperation could revolve around technology exchange, further integrating India into the Gulf's military and technological ecosystem.

In conclusion, the **India-Oman FTA** and strategic partnership are poised to be a cornerstone for **military diplomacy** and economic growth in the region, fostering **mutual benefit** and enhancing **regional stability**.

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## Challenges of Ensuring Judicial Accountability in India

**Context:** The issue of **judicial accountability** in India is complex, deeply embedded in the country's **constitutional framework** and the existing oversight mechanisms. The recent controversy involving **Justice Shekhar Kumar Yadav** of the Allahabad High Court has reignited debates on the effectiveness of these mechanisms.

### Current Framework for Judicial Accountability:

#### 1. Governing Laws and Mechanisms:

- Judicial accountability is primarily governed by the **Judges (Inquiry) Act, 1968**, which stipulates that a judge can only be removed on grounds of '**proved misbehavior or incapacity.**'
- A three-member inquiry committee comprising:
  - A Supreme Court judge.
  - A Chief Justice of a High Court.
  - An eminent jurist.
- This committee, functioning akin to a trial court, is convened only after a successful impeachment motion is initiated in either House of Parliament.



#### 2. Impeachment Process for Judges:

- Removal provisions are detailed under **Article 124(4)** and **Article 217** of the Constitution:
  - Initiation:** Requires a special majority—**one-third of the total membership and members present and voting**—in either House.
  - Presidential Order:** After the motion is passed, the President issues an order for the judge's removal.
  - Parliament is authorized to regulate the procedure for addressing judicial misconduct.

### Instances of Judicial Misconduct:

#### Notable Cases of Accountability:

##### 1. Justice V. Ramaswami:

- Found guilty of **extravagant spending and misuse of office** in the late 1980s.
- Despite the findings, the impeachment motion against him failed in Parliament.

##### 2. Justice Soumitra Sen:

- Accused of misappropriating 33.23 lakh as a court-appointed receiver.
- This case underscored the limitations of the current system and prompted the adoption of the **Restatement of Values of Judicial Life** (1997), a code of conduct for judges.

### Challenges in the Current System:

- Complex and Lengthy Impeachment Process:** The requirement of a **two-thirds majority** in the Lok Sabha or an **absolute majority** in the Rajya Sabha makes achieving consensus difficult, especially in politically polarized environments.
- Judicial Immunity:** Judges enjoy significant immunity, allowing them to **resign to evade formal proceedings**, a privilege greater than that of elected officials.
- Lack of Transparency:** The **opaque functioning of the collegium system** in appointing and transferring judges undermines public trust in the judiciary.
- Political Interference:** Political pressures sometimes influence judicial decisions, compromising the **independence and impartiality** of the judiciary.

**Proposed Reforms:****1. Reintroducing the Judicial Standards and Accountability Bill**

- The Bill, which lapsed in 2014, proposed mechanisms for:
  - **Asset declaration by judges.**
  - Establishing a **National Judicial Oversight Committee** to address misconduct.

**2. Reforming the Collegium System:**

- Introduce **greater transparency and accountability** by:
  - Publicizing the **criteria for appointments and transfers.**
  - Including external members in the selection process.

**3. Independent Oversight Bodies:** Create an independent body to investigate complaints against judges and ensure **unbiased oversight.****4. Enhanced Transparency:** Make judicial proceedings and decisions **more accessible** to the public to foster trust and confidence in the system.**Way Forward:**

- Strengthening Internal Mechanisms:** Develop a robust internal oversight body within the judiciary to address complaints promptly.
- Transparent Appointment Processes:** Ensure **participatory and open procedures** in the appointment and transfer of judges.
- Public Disclosure:** Mandate judges to disclose their **assets and liabilities**, improving transparency and accountability.
- Judicial Reforms:** Address **delays in justice delivery** and enhance the judiciary's overall efficiency through structural reforms.

**Conclusion:**

Ensuring **judicial accountability** is crucial to preserving the integrity and trust in India's judiciary. While the existing framework offers a foundation, **comprehensive reforms** are essential to tackle challenges such as **opacity, political interference, and the cumbersome impeachment process.** By implementing these reforms, India can ensure its judiciary remains independent, impartial, and accountable to its citizens.

**Overseas Indian Voters: High Registration, Low Turnout in Lok Sabha Elections 2024**

**Context:** The 2024 Lok Sabha elections witnessed a remarkable increase in **registration by overseas Indian voters**, showcasing their enthusiasm for electoral participation. However, this enthusiasm didn't translate into significant turnout, as only a fraction of these voters cast their votes.

**Why is This Newsworthy?**

The **Election Commission of India (ECI)** data revealed that **1.2 lakh overseas Indians** registered as voters for the 2024 elections, reflecting growing interest in contributing to the democratic process. Yet, only a small percentage managed to vote, underscoring the need for reforms in voting mechanisms for Non-Resident Indians (NRIs).

**Current Voting Process for Overseas Indian Voters:****Eligibility and Procedure:**





- **Eligibility:** NRIs can register as voters as long as they have not acquired citizenship in another country.
- **Constituency:** They are eligible to vote in the constituency corresponding to their place of residence listed in their passport.
- **In-Person Voting:** Voting must be done in person, and voters must present their **original passport** for identity verification.
- **Introduction of Voting Rights:** NRIs were granted voting rights in **2011** through an amendment to the **Representation of the People Act, 1950**.

#### Challenges in Current Process:

- The requirement to **travel to India** to vote poses a significant barrier, leading to poor participation.
- **High travel costs, professional commitments,** and other logistical hurdles further deter many NRIs from voting.

#### Proposals for Reform:

1. **Proxy Voting Proposal:** In **2018**, a bill enabling **proxy voting** for NRIs passed in the Lok Sabha but was stalled in the Rajya Sabha.
2. **Postal Ballot Proposal**
  - The ECI proposed extending the **Electronically Transmitted Postal Ballot System (ETPBS)** to overseas voters.
  - **How It Works:**
    - NRIs notify the **Returning Officer (RO)** within five days of election notification.
    - The ballot paper is sent electronically to the voter, who marks their preference and mails it back.
    - The ballot must be accompanied by a declaration attested by a consular officer in the voter's country of residence.
  - Currently, ETPBS is available only to **service voters** like armed forces personnel and diplomatic staff.

#### Participation Trends in Lok Sabha Elections 2024:

1. **Registration vs. Turnout:**
  - **Registration Surge:** 1,19,374 overseas Indians registered for 2024, up from **99,844** in 2019.
  - **Low Turnout:** Only **2,958 overseas voters** cast their votes, with **Kerala leading** the numbers.
2. **State-Wise Insights:**
  - **Kerala:** Highest participation with **2,670 voters** out of 89,839 registered.
  - **Other States:**
    - **Zero turnout** in states like **Karnataka, Uttar Pradesh, Tamil Nadu, Assam, Bihar, and Goa.**
    - **Gujarat:** Only **2 out of 885 electors** voted.
    - **Maharashtra:** 17 voters from 5,097 electors.
    - **Andhra Pradesh:** 195 voters from 7,927 electors.

#### Challenges Facing Overseas Voters:

- **Travel Costs:** Flying to India to vote is prohibitively expensive for many NRIs.
- **Time Constraints:** Employment and educational commitments deter participation.
- **Identity Verification:** Requirement of in-person voting with an **original passport** adds logistical difficulties.

#### Future Prospects and Reforms:

##### Postal Voting Demand:

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The Indian diaspora continues to advocate for **postal voting**, emphasizing the need for electoral reforms to address low voter turnout among NRIs.

#### Electoral Reforms on the Horizon

- Expanding **ETPBS** to include overseas voters.
- Introducing **proxy voting** or other mechanisms to simplify voting for NRIs.

#### Conclusion:

While the increase in registration reflects growing awareness and enthusiasm among **overseas Indian voters**, the starkly low turnout underscores the need for immediate **electoral reforms**. Addressing the logistical challenges faced by NRIs can ensure that their voices are heard in shaping India's democratic future.

By adopting **modern voting mechanisms**, India can bridge the gap between voter registration and participation, empowering its global diaspora to contribute effectively to the country's governance.

### India Sees a Decline in Internet Shutdowns in 2024

**Context:** According to data from the **Software Freedom Law Centre (SFLC)**, India reported **60 internet shutdowns** in 2024, marking the **lowest number in eight years**. This is a significant improvement for a country often criticized for frequent internet restrictions.



#### The Role of Internet Access:

In 2016, the **United Nations (UN)** declared **internet access a fundamental human right**.

Access to the internet is critical for achieving several **Sustainable Development Goals (SDGs)**:

- **SDG 4 (Quality Education)**: Facilitates e-learning and digital literacy.
- **SDG 5 (Gender Equality)**: Empowers women through access to information and opportunities.
- **SDG 10 (Reduced Inequalities)**: Bridges the digital divide and promotes inclusivity.

#### Legal Framework for Internet Shutdowns in India:

##### Constitutional Provisions:

- **Article 19(2)**: Allows the government to impose **reasonable restrictions** on freedom of speech and expression in the interest of public order, sovereignty, or security of the state.
- Internet shutdowns are often implemented to **curb misinformation**, control **civil unrest**, or prevent **violent protests**.

##### Statutory Provisions:

1. **Indian Telegraph Act, 1885**:
  - Under the **Temporary Suspension of Telecom Services (Public Emergency or Public Safety) Rules, 2017**, the government can suspend telecom services, including the internet, during public emergencies or for public safety.
2. **Criminal Procedure Code (CrPC)**:
  - Previously under **Section 144**, now incorporated as **Section 163 of the Bharatiya Nagarik Suraksha Sanhita**, authorities can impose restrictions to maintain public order.

##### Judicial Oversight:

- **Anuradha Bhasin vs. Union of India (2020)**:
  - The **Supreme Court** ruled that internet restrictions must adhere to the principles of **temporariness, legality, necessity, and proportionality**.



- It emphasized that the government must justify the need for a shutdown and ensure it is the **least intrusive measure** available.

#### Additional Insights:

#### Impact of Internet Shutdowns:

- **Economic Costs:** Frequent shutdowns lead to substantial losses, affecting sectors like e-commerce, banking, and IT.
- **Social Impact:** Curtails access to education, healthcare, and essential information.
- **Global Image:** Frequent shutdowns harm India's reputation as a **democratic nation** committed to individual freedoms.

#### India's Efforts to Minimize Shutdowns:

The decline in internet restrictions highlights a growing awareness of their **negative consequences** and the importance of balancing **security concerns with digital rights**.

#### Conclusion:

While the decline in internet shutdowns in 2024 is a **positive trend**, India must continue to prioritize **digital inclusion** and adopt more **nuanced approaches** to maintaining public safety. By upholding **constitutional principles** and leveraging **technology responsibly**, the country can ensure both **security** and **freedom of expression** in the digital age.

## One Nation One Subscription (ONOS): Revolutionizing India's Research Landscape

**Context:** The **One Nation One Subscription (ONOS)** initiative is a groundbreaking effort designed to **democratize access** to global academic and research materials in India. It aligns with the aspirations of **NEP 2020** and the vision of **Viksit Bharat@2047**, aiming to transform the country's research ecosystem.

#### Key Features of ONOS:

##### Centralized Implementation:

- **Role of INFLIBNET:** The **Information and Library Network Centre** under UGC will act as the **nodal agency**, managing subscriptions and ensuring seamless access to digital resources through a **centralized platform**.
- **Funding:** The initiative has been allocated a **₹6,000 crore budget** for its first phase (2025–2027), aimed at building infrastructure and streamlining access.

##### Phase I (2025–2027):

- Establishing a robust framework to provide access to a wide range of research materials.
- Negotiating **Article Processing Charges (APCs)** to make publishing more affordable for Indian researchers.

#### Advantages of ONOS:

##### Equitable Knowledge Access:

- ONOS bridges the **urban-rural divide**, enabling researchers in **tier-2 and tier-3 cities** to access top-tier international journals, which were previously inaccessible due to cost barriers.

##### Enhancing Research Quality:

- **Access to high-impact journals** will enable Indian researchers to produce **globally competitive research**, boosting innovation in areas like **STEM, medicine, and social sciences**.

##### Cost Savings:

- Centralized funding eliminates **duplicate subscriptions**, reducing costs for **Higher Education Institutions (HEIs)** and research centers.





- Discounts on **APCs** make publishing in prestigious journals more accessible.

#### Fostering Collaboration:

- ONOS promotes **interdisciplinary** and **international research collaborations**, enhancing India's visibility on the global academic stage.

#### National Development Goals:

- The initiative supports **India's R&D ecosystem**, driving innovation in **critical sectors** and contributing to **economic growth** and **self-reliance**.

#### Improved Academic Infrastructure:

- ONOS complements programs like the **Anusandhan National Research Foundation (ANRF)**, building a **robust academic framework** to support cutting-edge research.

#### Challenges in Implementation:

##### Administrative and Logistical Hurdles:

- Coordinating access for over **6,300 institutions** with varied needs will require efficient administration and management.

##### Digital Divide:

- Infrastructure gaps, including **unreliable internet connectivity** and limited digital literacy in **remote areas**, could hinder effective utilization.

##### Limited Resource Scope:

- The initial phase may not cover all necessary journals, leaving some researchers without access to their required materials.

##### Sustainability Concerns:

- Ensuring **long-term funding** without compromising resource quality could pose a challenge.

##### Monitoring Impact:

- Measuring the **real impact** of ONOS on research output, global rankings, and innovation requires comprehensive evaluation mechanisms.

##### Over-Reliance on Global Publishers:

- Dependency on **foreign publishers** could limit India's bargaining power, leading to potential cost escalations.

#### The Road Ahead:

1. **Strengthening Infrastructure:** Enhance **digital connectivity** in remote areas and provide **training programs** to improve digital literacy among researchers and students.
2. **Phase-Wise Expansion:** Gradually broaden ONOS to include more journals, databases, and resources in **regional languages** for inclusive growth.
3. **Promoting Open Access:** Encourage researchers to utilize **Open Access (OA)** platforms and build **national repositories** to freely share research outputs.

#### Improving Negotiation Power:

- Collaborate with other countries to secure **better terms** with publishers, such as reduced subscription costs and **lower APCs**.

#### Impact Metrics:

- Develop tools to assess the impact of ONOS on **research quality**, **academic output**, and **global R&D rankings**.

#### Empowering Regional Institutions:

- Allocate **additional resources** to smaller institutions, enabling them to fully leverage ONOS benefits.

#### Awareness and Training:





- Launch **public awareness campaigns** and organize **workshops** to educate researchers, faculty, and students on maximizing ONOS's potential.

**Conclusion:** The **One Nation One Subscription** initiative is a transformative step toward creating an **inclusive and robust research ecosystem** in India. By addressing challenges, leveraging technology, and fostering collaboration, ONOS has the potential to position India as a **global leader in innovation and academic excellence**.

## Centre Revamps Prison Manual to Combat Caste-Based Inequality

**Context:** The **Union Home Ministry** has amended the **Model Prison Manual (2016)** and the **Model Prisons and Correctional Services Act (2023)** to eliminate **caste-based discrimination** in Indian prisons.

The move addresses concerns raised by the **Supreme Court** regarding pervasive **caste disparities, overcrowding**, insufficient prison staff, and poor treatment of inmates.



### Understanding the Prison Manual in India:

#### Constitutional Framework:

- **Prisons** fall under the **State List** in the **Seventh Schedule** of the Constitution.
- **State Governments** are solely responsible for prison administration, governed by the **Prisons Act, 1894**, and respective state prison manuals.

#### Role of the Model Prison Manual:

- Drafted by the **Bureau of Police Research and Development (BPR&D)** under the Ministry of Home Affairs (MHA).
- Ensures **uniformity** in principles governing prisons across states and union territories.
- The **Model Prisons and Correctional Services Act (2023)** further enhances comprehensive prison administration reforms.

#### Current Scenario of Caste Disparities in Prisons:

- **NCRB's Prison Statistics (2022):**
  - **Scheduled Castes:** 22.4% of the prison population (only 16.6% of the general population).
  - **Scheduled Tribes:** 11% of the prison population (only 8.6% of the general population).
- **Key Issues:**
  - **Manual labor division, segregation in barracks**, and discriminatory policies against **denotified tribes** and **habitual offenders** reflect systemic inequalities.

#### Judicial Interventions:

The **Supreme Court** declared several prison manual provisions unconstitutional for violating:

- **Article 14** (Equality before the law)
- **Article 15** (Prohibition of discrimination)
- **Article 17** (Abolition of untouchability)
- **Article 21** (Right to life and personal liberty)
- **Article 23** (Prohibition of forced labor)

The Court directed all states and union territories to **revise their prison manuals** to eliminate discriminatory practices.

#### Key Features of the Model Prison Manual (2016):

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**Institutional Framework:**

- Outlines the **roles and responsibilities** of prison staff, ensuring an efficient hierarchy for prison management.

**Custodial Management:**

- Establishes procedures for **admission, classification, and transfer** of prisoners while maintaining discipline and security.

**Medical Care:**

- Details **medical examination** and treatment protocols, emphasizing regular health check-ups and proper facilities.

**Rehabilitation and Welfare:**

- Focuses on **reformation and reintegration** through vocational training, education, and after-care programs.

**Special Categories of Prisoners:**

- Includes guidelines for managing **women prisoners, young offenders, and high-security prisoners**.

**Key Provisions of the Recent Amendment:****1. Prohibition of Caste-Based Discrimination:**

- Explicitly bans **segregation, classification, or discriminatory allocation of work** based on caste.

**2. Enforcement of Anti-Manual Scavenging Act:**

- Implements the **Prohibition of Employment as Manual Scavengers and their Rehabilitation Act (2013)** within prisons.
- Prohibits **manual scavenging** or hazardous cleaning of sewers and septic tanks in prison facilities.

**3. Redefining Habitual Offenders:**

- Aligns the definition of **habitual offenders** with **Supreme Court directives** and state legislation to prevent misuse.

**Impact and Significance:****1. Promoting Equality:**

- These amendments are a milestone in ensuring a **fair and humane prison system**.
- They address systemic **caste-based inequalities**, promoting inclusivity and non-discrimination.

**2. Upholding Human Rights:**

- The changes emphasize **dignity and respect** for prisoners, irrespective of their social background.
- Reflects a broader commitment to **social justice and human rights** in the criminal justice system.

**Conclusion:**

The Centre's reforms to the prison manual signify a progressive step toward dismantling **caste-based discrimination** in prisons. By fostering equality, modernizing prison administration, and ensuring the dignity of inmates, these changes pave the way for a more just and inclusive criminal justice system in India.

### Rajendra Vishwanath Arlekar Takes Oath as Kerala's 23rd Governor

**Context:** Rajendra Vishwanath Arlekar was sworn in as the **23rd Governor of Kerala**, marking a new chapter in the state's governance.

#### The Role of the Governor in India:

##### Eligibility Criteria:

- Must be a **citizen of India**.
- Must have **completed 35 years of age**.
- Cannot be a **member of Parliament** or any **state legislature**.
- Should not hold any other **office of profit**.



##### Appointment Process:

- The **President of India** appoints the Governor.
- The Governor serves at the **pleasure of the President**, but the standard tenure is **five years**.

##### Constitutional Framework for Governors:

##### Relevant Articles:

- **Articles 153 to 162** of the Indian Constitution detail the Governor's office, powers, and functions.

##### Executive Authority:

- Acts as the **executive head** of the state, with all executive powers vested in the Governor.
- **Appoints the Chief Minister** and other ministers, who are collectively responsible to the state legislature.
- Has the authority to **dissolve the state legislature (Vidhan Sabha)** and call for elections.

##### Legislative Functions:

- Can **summon, prorogue, and dissolve the state legislature**.
- Addresses the legislature at the commencement of its sessions.
- Holds the power to **reserve specific bills** for the **President's assent**, particularly if the bill violates constitutional provisions or affects the Centre's powers.

##### Judicial Powers:

- Can **grant pardons, reprieves, or commutations** of sentences under certain circumstances.
- Plays a role in the **appointment of judges** to the state's High Court.

##### Discretionary Powers:

- In case of a **hung assembly**, the Governor can exercise discretionary power to invite a person to form the government.
- Acts independently in specific matters, such as reserving bills for the President or reporting to the Centre about the breakdown of constitutional machinery in the state.

##### Additional Knowledge:

##### Dual Role of the Governor:

- Acts as the **Constitutional Head** of the state and serves as the **Centre's representative**, ensuring compliance with constitutional norms.

##### Limitations on Governor's Powers:

- While the Governor has discretionary powers, their decisions are often subject to judicial review to prevent misuse of authority.

### Immunity and Accountability:

- The Governor enjoys immunity under **Article 361**, which protects them from being answerable to any court for their actions performed in official capacity.
- However, controversies often arise over the extent of their discretionary powers, especially during political crises.

### Relevance in Federal Structure:

- The Governor ensures the **coordination between the Centre and the State**, playing a crucial role in maintaining the balance in India's **federal framework**.

### Rajendra Vishwanath Arlekar: A Visionary Leader for Kerala

As Kerala's **23rd Governor**, Rajendra Vishwanath Arlekar brings a wealth of administrative and leadership experience. His appointment is expected to strengthen Kerala's governance, ensuring a balanced approach to state and federal relations while upholding constitutional values.

## Rural Community Immigration Class (RCIC) Scheme: A New Pathway to Settle in Canada

**Context:** The **Rural Community Immigration Class (RCIC)** scheme, launched by **Immigration, Refugees, and Citizenship Canada (IRCC)** in December 2024, offers a fresh opportunity for foreign nationals and students to achieve **permanent residency (PR)** in Canada. This initiative addresses the growing **labour shortages** in rural regions while fostering development in **smaller communities**.



Additionally, it provides a viable option for the thousands of international students whose **Post-Graduate Work Permits (PGWPs)** are set to expire by the end of 2025.

### About the RCIC Scheme:

The RCIC scheme is tailored to attract individuals who are willing to settle long-term in **designated rural communities** across Canada.

### Key Objectives:

- Boost Rural Development:** Enhance the workforce and economy of rural areas.
- Tackle Labour Shortages:** Address critical job vacancies in smaller communities.
- Promote Long-Term Settlement:** Encourage immigrants to reside and contribute to rural regions.

### Eligibility Criteria:

**Educational Qualification:** Candidates with qualifications such as **10+2, graduation, or secondary school education** can apply.

### Students:

- Graduates from Designated Communities:**
  - Must have completed at least **18 months of study** in a designated community.
  - Eligible to directly apply for PR.
- Graduates Outside Designated Communities:**
  - May apply but need to meet **additional requirements**.

### Job Offer Requirement:

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- A valid **job offer letter** from a **designated employer** in the community is mandatory.
- Jobs can include **non-skilled roles**.
- The offer must be submitted to the community, which will issue a **certificate supporting the PR application**.

#### Work Experience:

- Relevant **work experience** is typically required.
- However, international graduates meeting certain conditions may be **exempt** from this requirement.

#### Language Proficiency:

- Applicants must meet the **Canadian Language Benchmark (CLB)** based on the job's **NOC TEER (National Occupational Classification Training, Education, Experience, and Responsibilities)** level:
  - **TEER 0-1:** CLB 6
  - **TEER 2-3:** CLB 5
  - **TEER 4-5:** CLB 4

#### Financial Proof:

- Applicants must demonstrate they have at least **half the low-income threshold** for rural areas (as determined by Statistics Canada) to sustain themselves for one year.

#### Intent to Reside:

- Genuine proof of the candidate's **intention to live** in the designated rural community is essential.

#### Significance of the RCIC Scheme:

##### For Rural Canada:

1. **Economic Growth:** Helps boost the economic prospects of smaller communities.
2. **Addressing Skills Gaps:** Brings in skilled and unskilled workers for sectors facing shortages.
3. **Population Stabilization:** Reduces the urban-rural divide by attracting long-term settlers.

##### For Applicants:

1. **Direct Path to PR:** Offers an easier and structured way to secure permanent residency.
2. **Opportunities in Rural Areas:** Opens up job prospects in lesser-explored regions.
3. **Reduced Competition:** Rural regions often face less competition compared to urban immigration pathways.

#### Additional Insights:

##### Comparison with Urban Immigration Schemes:

- Urban schemes often demand higher qualifications and extensive work experience.
- RCIC lowers entry barriers by accommodating **non-skilled roles** and offering leniency in experience requirements for certain candidates.

#### Potential Challenges

- **Integration:** Newcomers might face challenges in adjusting to the rural lifestyle.
- **Limited Resources:** Smaller communities may have fewer amenities compared to urban centers.
- **Retention Issues:** Ensuring immigrants stay in rural areas after obtaining PR remains a concern.

#### Why Choose the RCIC Scheme?

For those looking for a **unique opportunity** to contribute to **Canada's rural economy** while securing their future, the RCIC scheme is an ideal choice. It strikes a balance between **development goals** and **individual aspirations**, making it a win-win for both the applicants and the rural communities of Canada.

### Supreme Court Scrutinizes Petition Alleging Bias in Senior Advocate Designation Process

**Context:** The **Supreme Court** of India has raised concerns over a petition filed by **Mathews Nedumpara**, an advocate, who alleged that the process of designating **Senior Advocates** is biased. According to Nedumpara, the **relatives of judges** and powerful individuals enjoy an easier path to the 'senior advocate' title, leading to the formation of a **privileged "cabal"** within the legal profession.



#### Key Points Raised in the Petition:

The petition calls for the **abolishment of the senior advocate designation system** and the **Collegium system**. Nedumpara believes that these systems promote elitism and perpetuate a culture of privilege in the judiciary. The petition claims the designation process contradicts the **fundamental principles of equality and fairness**, as enshrined in **Articles 14, 19, and 21** of the **Indian Constitution**.

#### Legal Framework for Senior Advocate Designation:

The **designation of senior advocates** in India is governed by:

- **Sections 16 and 23(5) of the Advocates Act, 1961:** These sections specify the criteria and procedures for recognizing advocates as senior advocates.
- **Supreme Court Rules, 2013:** These rules define the rights, privileges, and obligations of senior advocates.

#### Privileges of Senior Advocates:

Senior advocates enjoy several privileges, including:

- A **distinctive dress code**.
- **Preferential treatment** in court proceedings.
- **Enhanced professional status** and better opportunities.
- **Pre-audience** over junior advocates in court, as per Section 23(5) of the Advocates Act.

#### Restrictions Imposed on Senior Advocates:

Despite the privileges, senior advocates also face several restrictions:

- They are not allowed to appear in court without an **Advocate-on-record** or any junior advocate.
- Senior advocates are restricted from **drafting pleadings** or affidavits before any court or authority, as per Section 30 of the Act.
- They are prohibited from accepting briefs or instructions directly from a client to appear in any court.

#### Previous Petitions and Court's Verdict:

- **Indira Jaising Case:** India's first woman Senior Advocate, **Indira Jaising**, had previously filed a petition challenging the senior advocate designation process.
- **Court's Verdict:** The **Supreme Court** ruled to establish **guidelines** for the designation process, applying them uniformly across all High Courts and the Supreme Court.

#### The Debate on Elitism in the Legal Profession:

The issue of **elitism** in the legal profession has sparked significant debate. Critics argue that the current process for elevating advocates to the rank of **Senior Advocate** is prone to bias and undue influence. This, they say, leads to the creation of a **closed circle** of influential individuals who monopolize the profession.

The petition brings to light the **need for transparency and fairness** in the process, as well as the **removal of any form of favoritism** or bias. The **Supreme Court's review** of these assertions will likely determine the future course of the **senior advocate designation system** and its implications for justice and equality within India's legal framework.

### Conclusion:

The ongoing case raises vital questions about fairness and equality in India's legal system. It highlights the balance between **privileges** afforded to senior advocates and the **need for reform** in the process to ensure a level playing field for all legal professionals.

### Sivagiri Row: Understanding the Controversy

Context: The **92nd Sivagiri Pilgrimage** in Kerala became a platform for Chief Minister **Pinarayi Vijayan** to criticize what he termed as attempts to align **Sree Narayana Guru** with the **Sanatana Dharma ideology**. He argued that such portrayals contradict the **reformist and humanist ideals** of the Guru, who championed social justice and opposed **caste-based oppression**.



The Chief Minister also called for the **abolition of outdated practices**, such as the requirement for men to **remove shirts** before entering temples, describing them as remnants of regressive traditions.

### Significance of Sivagiri Madhom:

- **Cultural and Religious Heritage:** Established by **Sree Narayana Guru**, the **Sivagiri Madhom** is a spiritual and cultural hub in Kerala, particularly significant for the **Ezhava community**.
- **Catalyst for Social Reform:** The Guru's consecration of a **Shiva idol** for people of all castes in the late 19th century challenged the entrenched **caste hierarchy** and paved the way for **social transformation**.

### Political Context:

- **Ezhava Community's Influence:** Representing around **23% of Kerala's population**, the Ezhava community plays a crucial role in the state's social and political landscape.
- **Neutral Stance:** The Sivagiri Madhom has traditionally maintained **political neutrality**, avoiding affiliation with any party or ideology.
- **BJP's Outreach:** In recent years, the **BJP** has been making concerted efforts to **engage with the Ezhava community**, aiming to expand its foothold in Kerala.

### Who Was Sree Narayana Guru?

**Sree Narayana Guru (1856–1928)** was a revolutionary **social reformer, philosopher, and spiritual leader** who sought to dismantle caste-based inequalities in Kerala.

### Key Contributions:

- **Caste Reforms:** The Guru's philosophy, "**One Caste, One Religion, One God for Mankind**," became a rallying cry against **caste discrimination**.
- **Temple Reforms:** In **1888**, he consecrated a **Shiva idol** at **Aruvippuram**, a bold act that directly challenged the **Brahminical monopoly** over religious practices.
- **SNDP Yogam:** He founded the **Sree Narayana Dharma Paripalana (SNDP) Yogam** in **1903**, focusing on the **social and educational upliftment** of oppressed castes.

### Philosophical Ideals:

Sree Narayana Guru opposed the **ritualism and superstitions** propagated by temple systems dominated by upper-caste Brahmins. His teachings emphasized **human unity, equality**, and the eradication of **social evils**.

### The Current Debate:

#### 1. Appropriation of Sree Narayana Guru:

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- Critics argue that attempts to associate the Guru with **Sanatana Dharma** undermine his **reformist legacy** and dilute his efforts to challenge the **caste hierarchy**.
- Proponents of this narrative see it as an effort to integrate the Guru's teachings into a **Hindu nationalist framework**.

## 2. Temple Practices:

- The **removal of shirts by men** before entering temples has been criticized as an outdated practice inconsistent with modern ideals of **equality** and **progress**.

## Why the Outrage?

The controversy stems from the perceived **politicization** of Sree Narayana Guru's legacy. While his teachings focused on **human equality**, some see efforts to align him with Sanatana Dharma as an attempt to **recast his message** within the framework of **Hindu orthodoxy**. The **Kerala government's stance** reflects its commitment to preserving the Guru's **reformist ideals**.

## Legacy of Sree Narayana Guru:

The Guru's vision of **social justice**, **universal brotherhood**, and **spiritual equality** continues to resonate across generations. His contributions remain central to **Kerala's renaissance movement**, inspiring efforts to create an **inclusive society free from discrimination**.

By understanding and upholding his true legacy, modern society can continue to work toward the **eradication of inequality**, as envisioned by Sree Narayana Guru.

## Karnataka High Court Ruling: Transgender People Can Change Name and Gender on Birth Certificates

**Context:** In a significant move towards advancing **transgender rights**, the **Karnataka High Court** has upheld the right of a transgender woman to update her **name and gender** on her **birth certificate**. This ruling aligns with the provisions of the **Transgender Persons (Protection of Rights) Act, 2019**, and reinforces the importance of enabling transgender individuals to live with **dignity and equality**.



## Why This Ruling Matters?

This decision comes five years after the enactment of the **Transgender Persons (Protection of Rights) Act, 2019**, addressing long-standing hurdles faced by transgender individuals in revising official documents. The ruling emphasizes the need to eliminate inconsistencies in legal documentation, which often lead to **discrimination and harassment**.

## Understanding the Transgender Persons (Protection of Rights) Act, 2019:

### Key Provisions:

- **Certificate of Identity:** Transgender individuals can obtain a **Certificate of Identity** under **Section 6** of the Act, which serves as proof of their self-identified gender.
- **Post-Surgery Updates:** After undergoing **sex-reassignment surgery**, individuals can revise their certificate under **Section 7**.
- **Document Updates:** The Act explicitly permits updating **name and gender** on official records, including **birth certificates**, based on the certificate of identity.

## 2020 Rules:

The **Transgender Persons (Protection of Rights) Rules, 2020** outline the application process for identity certificates and mandate updates to official documents, with **birth certificates** listed as a priority.





## Background of the Case

### Ms. X vs. State of Karnataka (2024):

The petitioner, diagnosed with **gender dysphoria**, underwent **sex-reassignment surgery** and updated her **Aadhaar card, passport, and driving license** to reflect her gender identity. However, her request to revise her **birth certificate** was denied by the **Registrar of Births and Deaths**, citing limitations in the **Registration of Births and Deaths Act, 1969**.

### Registrar's Rejection:

The Registrar argued that changes to birth certificates were permissible only if the original entries were "**erroneous**" or "**fraudulent**," as per **Section 15 of the 1969 Act**.

### Petitioner's Stand:

The petitioner challenged this interpretation, arguing that it violated her **fundamental right to life and dignity** under **Article 21 of the Constitution**. She highlighted that inconsistent documents create a "**dual life**" and expose transgender individuals to **systemic bias and discrimination**.

### Karnataka High Court's Decision:

#### Conflict Between Laws:

The court observed a conflict between the **1969 Act** and the **2019 Act**, where the former imposed restrictions not aligned with the latter's objective of empowering transgender individuals.

#### Legal Doctrine Applied:

Using the principle of **generalia specialibus non derogant** ("special laws override general laws"), the High Court ruled that the **2019 Act** prevails over the **1969 Act** in matters concerning transgender rights.

#### Court's Directive:

The Karnataka High Court directed the **Registrar of Births and Deaths** to update birth certificates to reflect the petitioner's **new name and gender identity**, ensuring compliance with the **2019 Act**.

### How to Apply for a Certificate of Identity?

#### Standard Application Process:

1. **Submission to District Magistrate (DM):** Individuals must submit an affidavit declaring their gender identity to the DM.
2. **Processing and Verification:** The DM verifies the application and issues an **identification number**.
3. **Issuance of Certificate:** The DM provides the certificate of identity and a transgender identity card within **30 days** or gives reasons for rejection.

#### For Post-Surgery Applicants:

- Transgender individuals must obtain a **medical certificate** from the **Chief Medical Officer** after surgery.
- Using this certificate, they can apply for a **revised certificate of identity**, which the DM must issue within **15 days**.

#### Pre-Act Changes:

Those who changed their gender prior to the Act's implementation are exempt from applying for a certificate of identity under the Act.

#### Obligation to Update Official Documents:

Government authorities must update **name, gender**, and other relevant information on official documents such as **Aadhaar, driving licenses, and birth certificates** within **15 days** of receiving an application accompanied by a valid certificate of identity.

#### Significance of the Ruling:

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This decision sets a powerful precedent, ensuring that **transgender individuals' rights** are protected and upheld. By enabling seamless updates to identity documents, the ruling promotes **equality**, reduces **discrimination**, and strengthens the legal recognition of **transgender identities**.

It also underscores the urgent need for legislative amendments to the **1969 Act**, ensuring it aligns with modern laws and social realities.

### Centralized Pension Payment System: Revolutionizing Pension Disbursement

**Context:** The **Employees' Provident Fund Organisation (EPFO)** has fully implemented the **Centralized Pension Payments System (CPPS)** under the **Employees' Pension Scheme, 1995**, bringing transformative changes for over 7.85 million pensioners across India. This initiative enhances the **ease of living** and ensures seamless pension disbursement nationwide.



#### What is the Centralized Pension Payment System (CPPS)?

##### Key Features of CPPS:

1. **Nationwide Access to Pension:** Pensioners can now withdraw their pension from **any bank or branch** across India, removing regional restrictions.
2. **Streamlined Payments:** The system eliminates the need for **physical verifications** and ensures that pension amounts are credited immediately upon release.
3. **Mobility without Hassle:** Pensioners moving to a new location or switching banks/branches no longer need to transfer their **Pension Payment Order (PPO)**.
4. **Centralized Approach:** Unlike the earlier decentralized system, where zonal or regional offices of EPFO had separate agreements with limited banks, CPPS centralizes the payment process for **uniform disbursement**.

##### Benefits of CPPS:

- **Efficient Disbursement:** Reduces delays in crediting pensions.
- **Ease for Pensioners:** Removes the need for visiting banks for **verification** or processing.
- **National Coverage:** Ensures pension availability nationwide, enabling pensioners to relocate freely without administrative hurdles.

#### About the Employees' Provident Fund Organisation (EPFO):

##### Overview:

The EPFO is a **statutory body** established under the **Employees' Provident Funds and Miscellaneous Provisions Act, 1952**. It operates under the **Union Ministry of Labour and Employment**, ensuring financial security for millions of workers through various schemes.

##### Key Functions:

- **Administering Schemes:** The EPFO oversees three flagship schemes:
  1. **Employees' Provident Fund Scheme, 1952 (EPF)**
  2. **Employees' Pension Scheme, 1995 (EPS)**
  3. **Employees' Deposit Linked Insurance Scheme, 1976 (EDLI)**
- **Social Security Agreements:** Acts as the nodal agency for implementing **Bilateral Social Security Agreements** with other nations, enabling Indian and international workers to benefit reciprocally.

##### Structure of the EPFO:

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**Central Board of Trustees:**

The EPFO is governed by a **tripartite board** that includes representatives from the **Central and State Governments, employers, and employees.**

- The board is chaired by the **Union Minister of Labour and Employment.**
- It plays a pivotal role in administering the EPF, EPS, and EDLI schemes.

**Significance of CPPS: A Game-Changer:**

The introduction of CPPS addresses several long-standing challenges:

1. **Enhanced Pensioner Convenience:** Eliminates the inconvenience of visiting multiple offices or banks.
2. **Uniform Service Delivery:** Ensures consistent pension disbursement across India, irrespective of the pensioner's location.
3. **Digital Transformation:** Leverages technology to create a **hassle-free and transparent system**, reducing dependency on manual interventions.

**Did You Know?**

- The EPFO covers both **Indian workers** and **international workers** from countries with **bilateral social security agreements.**
- The **Employees' Pension Scheme, 1995**, under which CPPS is implemented, provides a lifelong pension to employees who have contributed for at least **10 years** to the scheme.

**Conclusion:**

The **Centralized Pension Payment System (CPPS)** represents a monumental step in simplifying pension disbursement for millions of retirees. By integrating a centralized and technology-driven approach, the EPFO ensures that pensioners can enjoy their retirement with **dignity and ease.**

**Supreme Court Affirms: Property Cannot Be Taken Without Adequate Compensation**

**Context:** The Supreme Court of India has reaffirmed the **Right to Property** as a **constitutional right** and a **human right**, emphasizing its significance in a welfare state.

**Historical Evolution of the Right to Property:**

1. **From Fundamental Right to Constitutional Right:**
  - Initially, the **Right to Property** was a **Fundamental Right** under **Article 19(1)(f)**, granting citizens the ability to **acquire, hold, and dispose of property.**
  - **Article 31** required the state to compensate individuals for any property acquired.
2. **Impact of Land Reforms:**
  - Land redistribution policies created tension, leading to repeated **amendments** that diluted property protections.
  - Ultimately, the **44th Constitution Amendment Act of 1978** removed the Right to Property from the Fundamental Rights list.
3. **Introduction of Article 300A:**
  - The right was reclassified as a **constitutional right** under **Article 300A**, which states: *"No person shall be deprived of his property save by authority of law."*
  - This change ensures that property can only be acquired through a **valid legal process.**

**Key Takeaways from the Supreme Court's Judgment:**

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**1. Property Protection Under Article 300A:**

- **No individual** can be deprived of their property without **due legal process**.
- **Adequate compensation** must be provided in accordance with the law when the state acquires property.

**2. Case Background: Bengaluru-Mysuru Infrastructure Corridor Project (BMICP):**

- Landowners affected by the project were deprived of their property since **2005**, with **compensation delays** caused by the state's "**lethargic attitude**".
- The court noted that this violated their rights under **Article 300A**.

**3. Fair Valuation of Land:**

- The court directed compensation to be based on the **market value** of the land as of **April 2019**, rather than the original acquisition year (**2003**).
- This adjustment was crucial to **uphold justice**, considering inflation and the time value of money.

**4. Timeliness in Compensation:**

- The judgment stressed the importance of **prompt compensation** in land acquisition cases.
- **Delays in payment** reduce compensation's real value, undermining fairness and economic justice.

**Broader Implications of the Ruling:****1. Accountability of State Authorities:**

- Reinforces the need for government agencies to respect **constitutional principles** and ensure **timely compensation**.

**2. Precedent for Fair Compensation:**

- Establishes a benchmark for determining **just compensation**, factoring in inflation and bureaucratic delays.

**3. Strengthened Property Rights:**

- Highlights the Supreme Court's role in safeguarding the **Right to Property**, even as a constitutional right, and recognizing it as integral to **human rights**.

**Did You Know?**

- The **Right to Property** is recognized as a **human right** under various international frameworks, such as the **Universal Declaration of Human Rights (UDHR)**.
- **Article 142** of the Indian Constitution empowers the Supreme Court to deliver complete justice, allowing for compensation adjustments in this case.

**Looking Ahead: Ensuring Justice in Land Acquisition****The ruling underscores the importance of:**

- **Transparent and efficient acquisition processes** to prevent undue delays.
- **Periodic review of compensation standards** to reflect economic realities.
- Empowering landowners through **legal awareness** and ensuring accountability in governance.

This judgment not only strengthens **property rights** but also sets a transformative precedent for fair treatment in land acquisition cases, balancing individual rights with state development needs.



## Blinkit's 10-Minute Ambulance Service: Opportunities and Challenges

**Context:** The launch of Blinkit's **10-minute ambulance service** has created a buzz, offering a glimpse into how private players can revolutionize **healthcare accessibility**. However, this initiative also highlights existing gaps in India's healthcare system and the need for regulatory oversight.



### Why is This Newsworthy?

Following Blinkit's announcement, **Union Commerce Minister Piyush Goyal** emphasized the importance of adhering to India's **legal framework**. The move has sparked debates about its feasibility, compliance with healthcare regulations, and the government's role in providing **essential services**.

### Government's Perspective and Legal Framework:

#### Key Concerns:

- **Regulatory Compliance:** Blinkit must follow the **Central Motor Vehicle Rules** and **Automotive Industry Standard (AIS) 125**, ensuring ambulances meet safety and operational standards.
- **State-Level Agreements:** For ambulances under the **National Health Mission (NHM)**, compliance varies based on agreements with state governments.
- **Gaps in Oversight:** Experts have pointed out **regulatory inconsistencies**, underscoring the urgent need to address ambulance shortages in India.

### Blinkit's Ambulance Service: A Closer Look

#### Service Details:

- **Pilot Launch:** Initially, five ambulances will operate in **Gurugram**, with plans for nationwide expansion in two years.
- **Features:** Each ambulance is equipped with **oxygen cylinders**, **AEDs**, monitors, emergency medicines, and staffed by a **paramedic**, an assistant, and a trained driver.
- **Cost:** The service charges a flat fee of ₹**2,000**, making it accessible for urban households.
- **Non-Profit Focus:** According to Blinkit CEO **Albinder Dhindsa**, the initiative is aimed at **bridging critical healthcare gaps**, not generating revenue.

### India's Urgent Need for Ambulance Services:

#### Lessons from the Pandemic:

The **COVID-19 pandemic** exposed the inadequacy of ambulance services, especially during peak emergencies, highlighting a systemic failure.

#### Current Scenario:

- **Limited Fleet:** India operates **17,495 Basic Life Support (BLS)** ambulances and just **3,441 Advanced Life Support (ALS)** ambulances.
- **Regional Disparities:** Northeastern states and rural areas face a severe shortage of ambulances.
- **Golden Hour Importance:** **ALS ambulances**, essential for trauma and critical care, are sparse, particularly in emergencies.

### Government's Role and Market Trends:

#### National Ambulance Services (NAS):

- The Ministry of Health supports **one ALS ambulance per 5 lakh people** and **one BLS ambulance per 1 lakh people**.



- States can request additional ambulances to meet regional demands, though gaps persist.

### Market Insights:

- **Growth Potential:** The Indian ambulance market, valued at **\$1,502.8 million in 2022**, is projected to grow at a **5.12% CAGR** between 2024 and 2028.
- **Declining Registrations:** Ambulance registrations peaked in 2021 but have since fallen, reflecting reduced emphasis on healthcare infrastructure post-pandemic.

### Opportunities and Challenges:

#### Opportunities:

- **Improved Access:** Blinkit's service can reduce response times, especially in urban areas with dense traffic.
- **Public-Private Partnerships:** Collaboration between private players and the government can enhance healthcare infrastructure.
- **Innovation in Healthcare:** Such initiatives push boundaries, encouraging innovation in **emergency medical services (EMS)**.

#### Challenges:

- **Regulatory Hurdles:** Ensuring compliance with laws and safety standards is critical.
- **Sustainability:** Maintaining a non-profit model while scaling up services may be financially challenging.
- **Regional Disparities:** Expanding services to underserved rural and remote areas remains a significant challenge.

### Conclusion: A Step Towards a Healthier Future:

Blinkit's **10-minute ambulance service** marks a bold step toward bridging healthcare gaps in India. While it offers hope for quicker emergency responses, its success hinges on **regulatory compliance, scaling infrastructure, and addressing regional inequalities**.

#### Way Forward:

- **Government Collaboration:** Policymakers must work alongside private players to establish a robust **emergency response framework**.
- **Focus on ALS Ambulances:** Increasing the number of well-equipped **Advanced Life Support ambulances** should be prioritized.
- **Enhanced Monitoring:** Implementing strict monitoring mechanisms will ensure the quality and reliability of services.

As private initiatives like Blinkit pave the way, it's imperative for the government to **strengthen its healthcare systems**, ensuring a future where **quality healthcare** is accessible to all.

## Rajagopala Chidambaram: Architect of India's Nuclear Triumphs

**Context:** Dr. Rajagopala Chidambaram, a towering figure in India's nuclear program and a celebrated scientist, passed away on **January 4, 2025**, at Jaslok Hospital, Mumbai. His life and legacy are a testament to India's journey toward scientific self-reliance and nuclear independence.

### Why is this Newsworthy?

Dr. Chidambaram played a pivotal role in **shaping India's nuclear program**, serving as a cornerstone of the nation's **strategic capabilities**. His contributions extended beyond nuclear advancements, leaving a lasting impact on science, technology, and rural development.





## A Glorious Legacy in Nuclear Science:

### Smiling Buddha: India's First Nuclear Test (1974):

- Conducted on **May 18, 1974**, at **Pokhran, Rajasthan**, under Dr. Chidambaram's scientific leadership.
- The test, with a yield of **12–13 kilotons**, marked India's entry as the **sixth nation** to conduct a nuclear test.
- **Plutonium Source**: Extracted from the **CIRUS reactor** provided by Canada.
- The test led to the establishment of the **Nuclear Suppliers Group (NSG)** to prevent nuclear proliferation.
- Known as a "**peaceful nuclear explosion**," Smiling Buddha showcased India's scientific prowess despite global diplomatic fallout.

### Operation Shakti: India's Second Nuclear Tests (1998):

- Conducted on **May 11, 1998**, at Pokhran, Rajasthan, showcasing India's **military nuclear capabilities**.
- Involved **five nuclear devices**:
  - **Shakti-I (Thermonuclear Device)**: Yield of 45 kilotons.
  - **Four Fission Devices**: With varying yields, demonstrating technological versatility.
- **Global Reaction**: Triggered sanctions from countries like the US and Japan but cemented India's status as a **nuclear weapons state**.
- The tests prompted Pakistan to conduct its own nuclear tests, further reshaping South Asia's security landscape.

### Key Roles and Recognitions:

- **Chairman, Atomic Energy Commission**: Played a leading role in advancing India's **nuclear weapons** and energy programs.
- **Principal Scientific Adviser (PSA)**: Served as India's longest-serving PSA (2002–2018), offering visionary guidance to the government.
- **Awards and Honors**:
  - **Padma Shri (1975)**: For early contributions to the scientific community.
  - **Padma Vibhushan (1999)**: For elevating India's nuclear and scientific capabilities.

### Contributions Beyond Nuclear Science:

#### Condensed Matter Physics:

- Made groundbreaking contributions in **condensed matter physics**, a foundation for nuclear technology and advanced materials.

#### Rural Technology Action Group (RuTAG):

- Initiated efforts to **empower rural communities** by introducing innovative, scalable technologies for grassroots development.

#### Society for Electronic Transactions and Security (SETS):

- Focused on **cybersecurity** and strengthening India's **indigenous technology infrastructure**.

### Impact of Nuclear Tests on India's Global Standing

#### Smiling Buddha (1974):

- Highlighted India's ability to conduct **independent nuclear research** outside the framework of the **Nuclear Non-Proliferation Treaty (NPT)**.
- Strengthened India's resolve to pursue **nuclear self-reliance**, despite global criticism and sanctions.

#### Operation Shakti (1998):

- Marked a significant shift in India's **strategic defense policy**, affirming its position as a **nuclear weapons**

- Sparked international debates on nuclear proliferation while solidifying India's defense capabilities.

### Conclusion: A Legacy That Transcends Generations

Dr. Rajagopala Chidambaram's life work was not just about **scientific breakthroughs** but also about ensuring India's **self-reliance in nuclear technology** and contributing to **national security**. His leadership during critical junctures, from **Smiling Buddha to Operation Shakti**, has left an indelible mark on India's journey as a global scientific and nuclear power.

### Did You Know?

- Dr. Chidambaram's work in condensed matter physics contributed significantly to the **design of India's nuclear devices**.
- Under his tenure, India became a global advocate for **responsible nuclear technology use** and **non-proliferation**, balancing power with principles.

## MeitY Releases Draft Digital Personal Data Protection Rules, 2025

**Context:** The **Ministry of Electronics and Information Technology (MeitY)** has unveiled the **draft Digital Personal Data Protection Rules, 2025**, for public consultation. These rules aim to facilitate the effective implementation of the **Digital Personal Data Protection (DPDP) Act, 2023**, strengthening India's data privacy landscape.

### Key Provisions of the Draft Rules:

#### Classification of Data Fiduciaries:

- Major tech firms like **Meta, Google, Apple, Microsoft, and Amazon** are expected to be designated as **Significant Data Fiduciaries (SDFs)** under the proposed rules.
- The classification ensures stricter accountability for organizations handling vast amounts of **personal data**.

#### Appointment of Data Protection Officers (DPOs):

- Every SDF must appoint a **Data Protection Officer** based in India, accountable to their **Board of Directors**.
- The DPO will act as the primary point of contact for data principals (individuals whose data is processed).

#### Transparency and Consent:

- Clear and accessible information** must be provided about how personal data is collected and processed, ensuring **informed consent** from individuals.
- Mechanisms must be in place for citizens to manage their data, including options for **data erasure** and appointing **digital nominees**.

#### Restrictions on Data Flow:

- Certain types of personal data cannot be **transferred outside India**, as specified by the Union Government.
- This provision aims to safeguard **sensitive personal data** and maintain sovereignty over critical information.
- Children's Data Protection:** Companies must secure **verifiable parental consent** before processing the data of individuals under 18 years.

#### Data Breach Reporting:

- In case of a **data breach**, companies must promptly inform affected individuals and detail measures to mitigate risks.
- Non-compliance could result in penalties up to **₹250 crore**.

#### Data Protection Board:







- A **digital-first platform** will enable individuals to lodge complaints and seek swift grievance redressal.
- The Board will have powers equivalent to a **civil court** for adjudicating personal data breaches.

### Digital Personal Data Protection Act, 2023: Key Features

#### Scope and Applicability:

- The Act governs the **processing of digital personal data** collected online or offline but digitized.
- It applies to data processing within and outside India if the data concerns goods or services offered in India.

#### Rights of Individuals:

- Individuals have the right to:
  - Access their personal data.
  - Request corrections or erasure.
  - Seek grievance redressal for violations.

**Obligations for Data Fiduciaries:** Maintain **data accuracy**, ensure **security**, and delete data once its purpose is fulfilled.

**Exemptions for Government Agencies:** Government bodies may be exempt from certain provisions in cases of **national security, public order, or crime prevention**.

#### Challenges in Implementation:

1. **Potential Privacy Concerns:** Broad exemptions for government agencies might infringe on the **fundamental right to privacy**.
2. **Limited Regulation of Data Processing Risks:** The rules focus on consent but lack provisions for addressing **indirect harms** from data misuse.
3. **Short Tenure of Board Members:** **Two-year terms** for Data Protection Board members, with scope for reappointment, could compromise **independent decision-making**.
4. **International Data Transfers:** Permitting cross-border data flow raises concerns about **adequate protection standards** in recipient countries.

#### Significance of the Rules:

- **Empowering Citizens:** The rules empower individuals by granting **control over their data** and enabling **rights like erasure** and grievance resolution.
- **Building Trust in Digital Platforms:** Enhanced provisions for **transparency** and **consent** aim to foster trust among users in digital services.
- **Balancing Growth with Privacy:** Unlike restrictive global frameworks, the rules prioritize **economic growth** while ensuring **citizen welfare**.

#### Quick and Transparent Redressal

A **digital-first approach** by the Data Protection Board ensures **swift and efficient complaint resolution**, bolstering public confidence.

#### Additional Insights:

- **Global Context:** India's data protection framework aligns with international efforts like the **EU GDPR**, but with unique provisions tailored to its demographic and economic realities.
- **Future Opportunities:** The Act and its associated rules could pave the way for a **thriving digital economy**, with trust and security as cornerstones.
- **Potential Reforms:** Addressing privacy concerns and refining cross-border data flow provisions could further strengthen the framework.

The **Digital Personal Data Protection Rules, 2025**, mark a significant step toward safeguarding citizens' data rights while fostering a robust and trustworthy digital ecosystem.

### Avian Influenza (H5N1) Outbreak Kills 3 Tigers: Zoos in India on Alert

**Context:** The recent outbreak of **avian influenza (H5N1)** has caused significant concern, with **three tigers** and a **leopard** succumbing to the virus at a Nagpur rescue center. This rare cross-species transmission in India has prompted nationwide precautions in zoos and wildlife establishments.



#### Why in News?

- **First Animal Cases in India:**
  - **Three tigers** and a **leopard** from a Nagpur rescue center were confirmed dead due to **avian influenza (H5N1)** in December 2024.
  - This marks the first instance of **bird flu infecting animals** in India.
- **Government Advisory:**
  - The Union government has issued a directive urging zoos across India to implement strict monitoring, adhere to containment protocols, and watch for symptoms among captive animals and nearby wildlife.
  - The advisory highlights the **zoonotic nature** of H5N1 and its potential risks to humans and animals.

#### What is Avian Influenza (H5N1)?

##### Overview of Bird Flu:

- **Avian influenza**, or **bird flu**, is a viral disease primarily affecting **poultry** and **wild birds**.
- The virus can spread to over **100 bird species**, with **ducks and geese** often acting as asymptomatic carriers.

##### About H5N1:

- H5N1 is a subtype of the **influenza A virus**, causing severe respiratory illness in birds.
- While human cases are rare, the **mortality rate** for infected individuals is a staggering **60%**.
- Transmission between humans is currently **difficult**, but mutations could increase this risk.

##### Evolution and Global Spread:

- The highly pathogenic H5N1 virus was first identified in **China (1996)** and has since spread worldwide:
  - **Europe (2020)**, **Africa**, **North America (2021)**, **South America (2022)**, and even **Antarctica (2024)**.
  - It has caused widespread mortality among both **domestic** and **wild bird populations** globally.

##### Impact of H5N1 on Animals:

##### Farm and Wild Birds:

- **Farm Birds:**
  - Overcrowded poultry farms facilitate rapid virus transmission, resulting in major outbreaks.
- **Wild Birds:**
  - The virus has devastated bird populations, including endangered species like the **California condor**, which lost 6% of its population in 2023.

##### Mammals:

- **Terrestrial Mammals:** Cases have been reported among **foxes**, **pumas**, and **bears** in North America.
- **Marine Mammals:**
  - Massive die-offs have been recorded, including **20,000 sea lions** in South America and high mortality among **Southern elephant seals** in Patagonia.



- **Farmed Mammals:** H5N1 infections in **mink farms** in Europe have heightened concerns about the virus adapting for cross-species transmission.

### Zoos on Alert: India's Response to H5N1:

#### Enhanced Monitoring:

- Zoos across India have been instructed to:
  - **Quarantine symptomatic animals** like tigers and other felines.
  - Monitor nearby wildlife for **unusual behavior or deaths**.

#### Government Measures:

- **Containment Efforts:**
  - Post-mortem samples from the infected animals were analyzed at the **NIHSAD in Bhopal**, confirming H5N1.
  - A **National Joint Outbreak Response Team** has been deployed to oversee containment measures.
- **Enhanced Biosecurity:**
  - Restrict personnel movement between infected and non-infected areas.
  - Temporary closures of affected facilities and **thorough disinfection**.

#### Protecting Zoo Staff:

- Personnel handling animals are required to wear **PPE (masks, gloves, suits)**.
- Regular **health screenings** and **training programs** have been implemented to ensure staff safety.

#### A Call for a One-Health Approach:

The Ministry of Animal Husbandry emphasized adopting a **One-Health** strategy, integrating efforts across:

1. **Human Health:** Mitigating zoonotic risks to prevent outbreaks in humans.
2. **Animal Health:** Monitoring and controlling the virus in wildlife and domestic animals.
3. **Environmental Health:** Ensuring clean and safe ecosystems to reduce viral transmission.

#### Conclusion:

The outbreak of **avian influenza (H5N1)** in India highlights the urgent need for **vigilance, robust biosecurity measures**, and a **collaborative approach** to prevent further spread. While the virus remains rare in humans, its ability to adapt poses a looming threat to global public health. **Integrating science, policy, and public awareness** will be key to addressing this challenge effectively.

## U.S. Net Neutrality Rollback Highlights India's Divergent Path

**Context:** The **6th U.S. Circuit Court of Appeals** recently ruled against the Federal Communications Commission's (FCC) attempt to enforce **Net Neutrality**. This decision marks another chapter in the ongoing debate over internet regulation in the United States.



#### Background:

- **Tech Companies vs. ISPs:** In the U.S., companies like **Netflix** opposed telecom providers charging extra for bandwidth, fearing the creation of "**fast lanes**" and "**slow lanes**" for internet traffic.
- **Policy Fluctuations:**
  - Obama-era policies enforced strict net neutrality rules.



- These rules were rolled back during the Trump administration.
- Under President Biden, efforts to reinstate them have faced judicial setbacks.

### What is Net Neutrality?

**Net Neutrality** is the principle that **internet service providers (ISPs)** must treat all web traffic equally, ensuring unrestricted access to all content and services, regardless of the source.

### Key Features of Net Neutrality:

1. **Equal Access:** No blocking, throttling, or paid prioritization of content.
2. **Consumer Protection:** ISPs cannot charge extra for accessing specific websites or applications.
3. **Freedom of Expression:** Safeguards free speech by preventing ISPs from censoring or controlling information.

### Significance of Net Neutrality:

- **Consumer Rights:** Ensures users can access any content without undue restrictions or additional costs.
- **Innovation and Competition:** Levels the playing field, allowing startups and smaller companies to compete with established players.
- **Preservation of Free Speech:** Prevents ISPs from censoring content or manipulating access based on commercial interests.

### The Global Debate:

#### Proponents of Net Neutrality:

##### Advocates argue it is vital for:

- A **free and open internet**.
- Preventing ISPs from **controlling access** or favoring content for profit.
- Protecting the **rights of smaller businesses** and consumers.

#### Opponents of Net Neutrality:

##### Critics, including many ISPs, believe:

- Strict regulations stifle **investment and innovation**.
- **Traffic prioritization** may be necessary for ensuring high-quality services for critical applications.

### India's Distinct Approach to Net Neutrality:

India has taken a progressive and consistent stance on net neutrality, distinguishing itself from the fluctuating policies in the U.S.

### The Journey So Far:

- **2014:** The debate began when **Bharti Airtel** proposed higher tariffs for internet calls (e.g., **Viber**), triggering public outrage.
- **2016:** The **Telecom Regulatory Authority of India (TRAI)** ruled in favor of net neutrality, prohibiting:
  - Differential pricing for internet services.
  - Discriminatory programs like **Facebook's Free Basics** and **telecom-specific data plans**.
- **2018:** The **Department of Telecommunications (DoT)** incorporated net neutrality into the **Unified License** framework, making it a **binding condition** for ISPs.

### Recent Challenges:

- **Demand for Network Usage Fees:**
  - Indian telecom operators are now demanding **network usage fees** from large tech companies to compensate for the traffic they generate.





- This demand has sparked fresh concerns among net neutrality advocates, who fear it could undermine the principles of an open internet.

### Conclusion and Way Forward:

Net neutrality remains a cornerstone of the **open internet**, ensuring equal access, promoting innovation, and safeguarding freedom of expression.

### Key Recommendations:

1. **Balanced Regulation:** Policymakers must find a middle ground between **regulation** and **free market dynamics**.
2. **Encouraging Dialogue:** Foster collaboration between **telecom providers, tech companies, and regulatory bodies** to address legitimate concerns without compromising net neutrality.
3. **Consumer-Centric Approach:** Prioritize consumer rights and prevent measures that could limit internet access or increase costs.

By adhering to these principles, India can continue to lead globally in preserving a **free and equitable internet**, even as challenges evolve.

## Bharatpol Portal: Transforming International Police Collaboration in India

**Context:** On **January 7, 2025**, Union Home Minister **Amit Shah** inaugurated the '**Bharatpol**' portal, developed by the **Central Bureau of Investigation (CBI)**. This initiative aims to enhance **international police cooperation**, providing a real-time platform to combat transnational crimes effectively.



The **Bharatpol portal** is designed to connect central and state law enforcement agencies with **Interpol**, enabling swift action against global criminal activities and expediting investigations.

### What is Interpol?

#### Overview of Interpol:

- **Full Name:** International Criminal Police Organization
- **Code Name:** Interpol (used for radio-telegraph communication).
- **Established:** 1923
- **Headquarters:** Lyon, France
- **Member Countries:** 196
- **Special Status:** Permanent Observer at the **United Nations** since 1996.

#### Functions of Interpol:

- Interpol is not a conventional **police force**; its agents lack the authority to make arrests.
- It serves as a **global information-sharing network**, enabling national police forces to cooperate in combating international crimes like **human trafficking, terrorism, money laundering, and illegal art trade**.
- Interpol issues **colour-coded notices** in **English, French, Spanish, and Arabic** to disseminate criminal information.
- Maintains **centralized databases** with records of fingerprints, DNA, and stolen documents to aid global law enforcement.

### What is Bharatpol?

Download Our Application



Freedom UPSC with **Dhananjay Gautam**

**Background: CBI as India's Interpol Liaison**

The **Central Bureau of Investigation (CBI)** functions as India's **National Central Bureau (NCB-New Delhi)**, bridging Indian law enforcement with Interpol's 195 member countries. Previously, coordination relied on **letters, emails, and faxes**, leading to delays in criminal investigations.

**About Bharatpol:**

**Bharatpol** is a revolutionary platform developed to streamline **international police cooperation**, enabling **real-time assistance** for criminal investigations. It addresses challenges posed by **transnational crimes** like **cybercrime, drug trafficking, and human trafficking**, which demand instant global coordination.

**Key Features of Bharatpol Portal:**

1. **Unified Platform for Law Enforcement:** Connects the **CBI (NCB-New Delhi)** with all Indian law enforcement agencies, including **Superintendents of Police (SPs)** and **Commissioners of Police (CPs)**, ensuring seamless communication.
2. **Simplified Request Mechanism:** Enables frontline officers to submit **international assistance requests** using **standardized templates**, reducing complexity and time delays.
3. **Rapid Information Dissemination:** Facilitates swift sharing of **criminal intelligence** and updates from Interpol member countries with Indian law enforcement.
4. **Streamlined Interpol Notices:** Simplifies the process of drafting requests for **Interpol Notices** like **Red Corner Notices**, aiding in the global tracking of criminals and illicit assets.
5. **Capacity Building:** Provides training resources, templates, and documentation to enhance the skills of officers in **international investigations**.

**Key Modules of Bharatpol:**

1. **Connect:** Allows Indian agencies to operate as extensions of Interpol's **NCB-New Delhi**, ensuring secure and structured transmission of requests.
2. **Interpol Notices:** Facilitates efficient requests for notices to aid in locating criminals worldwide.
3. **Broadcast:** Offers real-time access to international assistance requests, enhancing responsiveness.
4. **References:** Organizes references and archives for **international case investigations**.
5. **Resources:** Simplifies sharing and management of training materials and important documents.

**Significance of Bharatpol:**

1. **Faster Investigations:** Reduces time delays in communication and coordination.
2. **Tackling Transnational Crimes:** Strengthens India's capability to combat emerging crimes like **cyber-attacks** and **online radicalization**.
3. **Enhanced Collaboration:** Facilitates seamless interaction between Indian and global law enforcement agencies.
4. **Capacity Building:** Improves the skill set of Indian officers in handling complex international cases.

**Conclusion:**

The launch of the **Bharatpol portal** marks a transformative leap in India's efforts to address global crime challenges. With real-time connectivity, streamlined processes, and enhanced collaboration, Bharatpol ensures that India is better equipped to tackle transnational threats effectively.

This initiative is a significant stride toward achieving a **safe and secure global environment**, reinforcing India's position as a responsible partner in international law enforcement.

### Decoding the National Anthem Controversy: A Detailed Insight

**Context:** The Tamil Nadu Raj Bhavan recently alleged that the **National Anthem** and the **Constitution of Bharat** were disrespected in the Tamil Nadu Assembly. Traditionally, the session begins with the **State Anthem** (*Tamil Thai Vazhthu*) and concludes with the **National Anthem**. The controversy has reignited discussions about the **protocols and legalities** surrounding the **National Anthem**.



#### About the National Anthem:

##### 1. Composition:

- '**Jana Gana Mana**', India's National Anthem, was composed by **Rabindranath Tagore** in Bengali.
- It was first performed on **December 27, 1911**, at the **Indian National Congress session in Kolkata**.

##### 2. Adoption:

- The National Anthem was officially adopted on **January 24, 1950**, by the **Constituent Assembly of India**.
- Only the **first stanza** of Tagore's five-stanza poem is included in the official version.
- When sung or played in full, the anthem lasts **52 seconds**.

#### Constitutional Provisions for the National Anthem:

##### Fundamental Duty (Article 51A(a))

- It is the **duty of every citizen** to respect the **Constitution**, the **National Flag**, and the **National Anthem**.
- While the Constitution does not specify the rules for singing or playing the anthem, these are detailed in **statutes and government guidelines**.

#### Occasion for Playing the National Anthem:

According to the **Ministry of Home Affairs**, the **full version** of the anthem is played during:

1. **Civil and Military Investitures.**
2. **National Salute:** During ceremonial events for the **President, Governor, or Lieutenant Governor**.
3. **Parades:** Irrespective of the presence of dignitaries.
4. **Arrival and Departure** of the President at **state functions**.
5. **Presidential Addresses** on **All India Radio**.
6. **Governor's Functions:** At state events for **Governors or Lieutenant Governors**.
7. **Naval Ceremonies:** During the **hoisting of colours** in the **Navy**.

#### Code of Conduct for Singing the National Anthem:

##### Standing at Attention:

- **All individuals must stand** at attention during the anthem, with exceptions for **persons with disabilities**.

##### Newsreels or Documentaries:

- The audience is **not required to stand** when the anthem is played as part of a **newsreel** or **documentary**.

##### Shortened Version:

- A shorter version, lasting about **20 seconds**, is permitted for **ceremonial purposes**.

#### Legal Protections for the National Anthem

##### Prevention of Insults to National Honour Act, 1971

- **Intentional disruption** or **refusal to participate** in the singing of the anthem is punishable by:



- Up to three years imprisonment,
- A fine, or both.

About Tamil Thai Vazhthu: Tamil Nadu's State Anthem:

### 1. Composition:

- The **Tamil Thai Vazhthu** (*Invocation to Mother Tamil*) was written by **Manonmaniam Sundaram Pillai**, a celebrated Tamil scholar.
- It is part of the **prologue** to his 1891 Tamil drama, **Manonmaniam**.

### 2. Official Recognition:

- In **2021**, the Tamil Nadu government officially declared **Tamil Thai Vazhthu** as the **State Anthem**.
- It mandates that **everyone must stand** during its performance, except for **persons with disabilities**.

### Conclusion:

The **National Anthem controversy** sheds light on the importance of respecting national and state symbols while adhering to established **protocols**. Both the **Jana Gana Mana** and **Tamil Thai Vazhthu** hold deep cultural and constitutional significance, symbolizing the unity and identity of the nation and the state. Maintaining decorum and understanding the **legal safeguards** ensures these symbols continue to inspire patriotism and respect.

## Cashless Treatment Scheme for Road Accident Victims: A Lifesaving Initiative

**Context:** The **Ministry of Road Transport and Highways (MoRTH)** has announced a groundbreaking **nationwide cashless treatment scheme** designed to offer **immediate medical assistance** to victims of road accidents across India. This initiative aims to address the critical need for timely intervention, particularly during the **"golden hour"**, a crucial period following a traumatic injury when prompt medical care can save lives.



### Background:

- **Pilot Program:** The scheme stems from a **pilot initiative** launched on **March 14, 2024**, initially implemented in **Assam, Punjab, Haryana, and Puducherry**.
- **Golden Hour Focus:** The pilot phase was successful in establishing an efficient framework for providing **urgent medical care** to accident victims during the **first hour after an incident**, when immediate treatment is vital.
- **Expansion to Nationwide Coverage:** Based on its success, the scheme has been expanded to encompass the entire country.

### Key Features of the Scheme:

1. **Nationwide Coverage:**
  - Offers **cashless treatment** to all **road accident victims** at hospitals under the **Ayushman Bharat Pradhan Mantri-Jan Arogya Yojana (AB PM-JAY)**.
  - Covers **trauma and polytrauma cases** for up to **₹1.5 lakh per accident** for a period of **seven days**.
2. **Streamlined Implementation:**
  - Managed by the **National Health Authority (NHA)** in collaboration with **police, hospitals, and state health departments**.
  - Utilizes advanced systems like the **e-Detailed Accident Report (eDAR)** and the **NHA's Transaction Management System** to ensure smooth registration and claim processing.
3. **Support for Hit-and-Run Cases:**
  - Provides **2 lakh compensation** to families of victims in **hit-and-run fatalities**, offering much-needed financial relief.





### Why This Scheme Matters:

#### 1. Alarming Statistics:

- India reported a staggering **1.80 lakh road accident fatalities in 2024**, including:
  - 30,000 deaths** from individuals not wearing helmets.
  - 10,000 child deaths** near educational institutions.

#### 2. Comprehensive Coverage:

- Ensures **inclusivity** by covering all accident victims, regardless of financial background or circumstances, thereby broadening access to critical care.

#### 3. Efficient and Technology-Driven:

- Reduces **bureaucratic delays** by leveraging technology and integrating multiple stakeholders for faster claim settlements and medical assistance.

#### 4. Financial Relief for Families:

- The scheme alleviates the **economic burden** on families by covering **treatment costs** and offering compensation for **hit-and-run victims**.

### Additional Facts and Insights:

- Global Perspective:** Road traffic injuries are a major public health concern worldwide, with over **1.3 million deaths annually** according to the **World Health Organization (WHO)**. Initiatives like this place India at the forefront of addressing the issue comprehensively.
- Road Safety Initiatives:** In addition to this scheme, the government is actively promoting **road safety awareness campaigns**, encouraging the use of helmets and seat belts, and implementing stricter traffic laws.
- Economic Cost of Accidents:** Road accidents cost the Indian economy approximately **3% of its GDP annually**, making this scheme not only a humanitarian initiative but also an economic necessity.

### Conclusion:

The **Cashless Treatment Scheme for Road Accident Victims** is a transformative step toward enhancing **road safety**, ensuring **timely medical intervention**, and reducing the **economic and emotional toll** on victims and their families. By combining **technology**, **collaboration**, and **compassion**, the initiative reaffirms the government's commitment to saving lives and fostering a safer India.

## Understanding Sections 33 and 81 of the Delhi Land Reforms Act, 1954

**Context:** The **debate around repealing Sections 33 and 81** of the Delhi Land Reforms Act, 1954, has resurfaced following allegations that the Union government has not fulfilled its promise to address these contentious provisions.

### The Delhi Land Reforms Act, 1954: An Overview

The **Delhi Land Reforms Act, 1954** was enacted to reform the **Zamindari System** and unify tenancy laws in Delhi. It aimed to modernize agricultural land management and abolish outdated land revenue systems.

### Key Highlights:

- The Act repealed older laws, such as:
  - Punjab Tenancy Act, 1887**
  - Agra Tenancy Act, 1901**
  - Punjab Land Revenue Act, 1887**





- It established two types of land tenure holders:

1. **Bhumidhar**: Full ownership rights.
2. **Asami**: Limited rights, often tenants.

Villages declared as **urban areas** no longer fall under this Act. Instead, they are governed by the **Delhi Municipal Act, 1957**, and the **Delhi Development Act, 1954**.

### Provisions of Sections 33 and 81:

#### Section 33: Restriction on Land Transfers:

- **Prohibits** the **sale, gift, or transfer** of agricultural land if it reduces the owner's total holding to less than **8 acres**.
- **Objective**: Prevent fragmentation of agricultural holdings to maintain **economic viability** for farming.
- **Exceptions**:
  - Transfers allowed to **religious or charitable institutions**.
  - Land donations under the **Bhoodan movement**.

#### Section 81: Ejection for Non-Agricultural Use

- Landowners can be **ejected** if agricultural land is used for **non-agricultural purposes** like housing or commercial activities.
- Such land is **transferred to the Gram Sabha**.
- **Permitted uses**:
  - **Agriculture, horticulture, animal husbandry, pisciculture, and poultry farming**.

### Why Are These Provisions Contested?

1. **Outdated Provisions**: Delhi has transitioned from a primarily agricultural economy to an **urban and industrial hub**. These provisions are now seen as **irrelevant** to modern needs.
2. **Hindrance to Urban Development**:
  - Restrictions under Section 33 delay infrastructure projects and housing expansion in **rapidly urbanizing areas**.
  - Section 81 discourages the **adaptive reuse of agricultural land** for urban purposes.
3. **Bureaucratic Complexities**: Obtaining permissions for land-use changes involves **lengthy procedures** and **bureaucratic red tape**, often leading to **corruption**.
4. **Economic Implications**: Farmers with small landholdings face **reduced economic opportunities** as they are unable to sell or repurpose their land freely.

### Proposed Reforms and the Way Forward:

#### 1. Modify Section 81:

- Instead of transferring ownership to the **Gram Sabha**, impose **monetary penalties** for the unauthorized use of agricultural land.
- Encourage compliance without displacing landowners.

#### 2. Provide Support to Farmers:

- Offer **alternative livelihood opportunities** for farmers with small landholdings.
- Introduce financial and technical support for modernizing agricultural practices.

#### 3. Facilitate Controlled Development:

- Establish a **balanced framework** that preserves agricultural lands while enabling controlled **urban expansion**.

- Simplify the process for obtaining permissions to **reduce bureaucratic hurdles**.

#### 4. Leverage Technology:

- Use **geospatial mapping** to identify areas suitable for urban development without disrupting viable farmland.
- Create a **centralized digital platform** for transparent and efficient land-use applications.

#### Additional Insights:

1. **Urbanization Trends in Delhi:** Delhi's population growth and urban sprawl demand **large-scale infrastructure** and affordable housing. Reassessing land policies is crucial to meet these needs.
2. **Global Practices:** Countries like **Japan and South Korea** have successfully balanced agricultural preservation with urban development through zoning and land-use policies.
3. **Environmental Considerations:** Retaining green spaces and agricultural lands can help combat **urban heat islands** and promote **ecological balance**.

#### Conclusion:

Sections 33 and 81 of the Delhi Land Reforms Act, 1954, reflect policies suited to an agricultural past but now pose challenges to **modern urban development**. Reforming these provisions can pave the way for **balanced growth**, **economic opportunity**, and **sustainable land use** in Delhi, ensuring benefits for both rural and urban stakeholders.

### 18th Pravasi Bharatiya Divas: Celebrating the Global Impact of Indian Diaspora

**Context:** Prime Minister Narendra Modi inaugurated the **18th Pravasi Bharatiya Divas (PBD) Convention**, celebrating the invaluable contributions of the **Indian diaspora**.

With the theme **"Diaspora's Contribution to a Viksit Bharat (Developed India)"**, the event emphasized the global influence of Indians abroad and their role in India's journey toward becoming a developed nation.

#### What is Pravasi Bharatiya Divas (PBD)?

##### Significance:

PBD is celebrated on **January 9**, the day **Mahatma Gandhi** returned to India from South Africa in **1915**, symbolizing the **return of Indian talent and service to the homeland**.

This biennial event fosters connections between the **Indian government** and the global Indian community, highlighting their achievements and engaging them in India's development.

##### Background:

- Initiated in **2003** by former Prime Minister **Atal Bihari Vajpayee**.
- Based on recommendations from the **High-Level Committee on Indian Diaspora** led by **LM Singhvi** in **2002**.
- Organized by the **Ministry of External Affairs (MEA)** in partnership with the **Confederation of Indian Industry (CII)** and other stakeholders.

##### Format and Evolution:

Initially an **annual event**, PBD was restructured in **2015** to be celebrated **every two years** for a more focused and impactful engagement.

##### Spotlight on Indian Diaspora:

##### Global Presence:

- **USA:** 54 lakh
- **UAE:** 35 lakh





- **Canada:** 28 lakh
- **Saudi Arabia:** 24 lakh
- **Total Overseas Indians:** Over 3.5 crore, including NRIs and OCIs.

#### Economic Contributions:

- Indian diaspora remitted a record **\$125 billion** to India in **2023**, demonstrating their pivotal role in the country's economy.

#### Diplomatic Influence:

- Diaspora members are increasingly influential in countries like the **US, Canada, and UK**, often serving as bridges to strengthen bilateral ties.
- Events like **"Howdy Modi"** in Texas (2019) highlight the diaspora's political clout and cultural unity.

#### Categories of Overseas Indians:

1. **Non-Resident Indians (NRIs):** Indian citizens living abroad.
2. **Overseas Citizens of India (OCIs):** Foreign nationals of Indian origin meeting specific criteria under the Citizenship Act, 1955.
3. The **Persons of Indian Origin (PIO)** category was merged with OCI in **2015** for streamlined identification.

#### Key Highlights of the 18th Pravasi Bharatiya Divas:

##### Chief Guest:

- **Christine Carla Kangaloo**, President of **Trinidad & Tobago**, addressed the convention virtually.

##### Pravasi Bharatiya Samman Awards (PBSA):

This prestigious award honors **overseas Indians** for significant contributions globally.

- **27 awardees** from **24 countries**, including notable recipients like:
  - **Lekh Raj Juneja (Japan):** Recognized for advancements in **Science & Technology**.
  - **Robert Masih Nahar (Spain):** Honored for **Community Service**, particularly in promoting **cricket in Catalonia**.
  - **Syed Anwar Khursheed (Saudi Arabia):** Commended for excellence in **Medical Services**.

##### PM Modi's Vision and Message:

##### A Call for Global Peace:

- PM Modi urged the world to move from **"Yuddha" (war) to "Buddha" (peace)**, emphasizing India's ethos of peace and humanity.
- He cited **Ashoka's transformation** in Dhauili, Odisha, as a testament to India's commitment to non-violence.

##### India's Expanding Global Role:

- India's leadership in representing the **Global South** and advocating for initiatives like granting the **African Union a permanent G20 membership**.
- Reinforced the principle of **"humanity first"** in international relations.

##### Recognizing Historical Contributions:

- Highlighted diaspora journeys like the migration of **Gujaratis to Oman** 250 years ago.
- Proposed a **database on Girmitiyas** (indentured laborers) to document their migration stories and achievements.

##### Vision 2047:





- PM Modi inspired the diaspora to contribute toward making India a **developed nation** by its **100th year of independence**.
- Urged collaborative efforts to celebrate and protect their cultural and economic legacies.

### Conclusion:

The **18th Pravasi Bharatiya Divas** served as a testament to the **Indian diaspora's global influence**, their economic and cultural contributions, and their unwavering connection to India.

With India's ambitious vision of becoming a developed nation by **2047**, the diaspora remains a **pillar of support**, embodying the spirit of "**Viksit Bharat**" and strengthening India's stature on the world stage.

## Union Government Disburses RS. 1.73 Lakh Crore to States for Tax Devolution

**Context:** The Union Government has released **1.73 lakh crore** to state governments, aiming to boost **capital expenditure** and fund various **welfare initiatives**. This allocation is a crucial step in **strengthening fiscal federalism** and empowering states to address their developmental and welfare needs.



### Highlights of the Tax Devolution:

- A **higher-than-usual amount** has been released to accelerate **infrastructure projects** and **welfare schemes**.
- States like **Uttar Pradesh, Uttarakhand, and Bihar** have received the **largest shares** of the disbursed funds.

### What is Tax Devolution?

**Tax devolution** refers to the **distribution of tax revenues** collected by the central government to the states. It ensures states have sufficient resources to manage their developmental and welfare programs.

### Key Objectives:

- **Promote fiscal federalism** by empowering state governments financially.
- Strengthen the **financial autonomy** of states, allowing them to address local needs effectively.

### How Does It Work?

- The **central government collects taxes** like **income tax, GST**, and other indirect taxes.
- A portion of this revenue is **shared with the states** based on the **Finance Commission's recommendations**.

### Formula for Allocation:

- Factors considered include:
  - **Population size** and **demographic performance**.
  - **State efforts** to mobilize tax revenue.
  - **Geographical area, forest cover, and per capita income**.
- The allocation formula aims to reward better governance and encourage states to **improve their financial management**.

### Constitutional Provisions Governing Centre-State Financial Relations:

- **Articles 202–206:** Define the **financial administration** of states, including their powers related to taxation, borrowing, and expenditure.
- **Articles 268–272:** Outline the **division of revenues** between the Union and states.
- **Article 280:** Mandates the establishment of a **Finance Commission** every five years to recommend the tax devolution formula.



- **Article 282:** Empowers the Union to provide **financial assistance** to states for public purposes.

#### Tax Devolution Trends:

#### Current Share of States:

- **14th Finance Commission** (2015-2020): Increased the states' share of central taxes from **32% to 42%**, introducing **revenue deficit grants** for states with resource gaps.
- **15th Finance Commission** (2020-2026): Revised the states' share to **41%**, maintaining fiscal balance while considering the creation of the Union Territories of Jammu & Kashmir and Ladakh.
- **Special Funding Rules:**
  - Northeastern and hill states follow the **90:10 rule** (90% Centre, 10% state funding).
  - For other states, the ratio is **60:40** (60% from the Centre, 40% from the states).

#### Concerns Raised by States:

#### Demand for Higher Allocations:

- States argue for **greater financial autonomy**, citing responsibilities such as **education, healthcare, and policing**.

#### Disparities Among States:

- Developed states like **Tamil Nadu** and **Karnataka** feel penalized for their **higher tax contributions** compared to what they receive from the Centre.
- Critics argue this undermines states with **better governance** to support those with **weaker fiscal management**.

#### Issues with the Divisible Pool:

- **Cesses and surcharges**, which constitute up to **28% of central tax revenues**, are not shared with the states, leading to significant revenue loss for state governments.

#### Independence of the Finance Commission:

- Critics question the **independence of the Finance Commission**, as its members are appointed by the central government, potentially leading to **political bias** in recommendations.

#### Way Forward:

##### 1. Strengthening Cooperative Federalism:

- Enhance the **GST framework** to ensure smoother tax collection and equitable distribution of resources.
- Promote **fair taxation systems** that address the needs of all regions equitably.

2. **Fiscal Equalization:** Prioritize **balanced resource allocation**, ensuring **poorer states** receive adequate support without penalizing well-performing states.

3. **Modernizing Tax Administration:** Improve **tax compliance** and **administration efficiency** at the state level to optimize resource utilization.

4. **Capacity Building:** Invest in **financial management training** and infrastructure to help states effectively utilize devolved funds for development.

#### Did You Know?

- The **Finance Commission** not only decides on tax sharing but also recommends grants for **disaster relief** and **local governance improvements**.
- In the **2023-24 fiscal year**, cesses and surcharges accounted for over **5 lakh crore**, none of which were shared with the states.

The recent tax devolution highlights the government's commitment to empowering states and addressing fiscal challenges, a vital step toward fostering a more balanced and inclusive economic growth trajectory.



## Supreme Court Rejects Review Petitions on Same-Sex Marriage Judgment

**Context:** The Supreme Court of India recently dismissed review petitions challenging its **October 2023 ruling**, which denied the legalization of same-sex marriage. The court emphasized that the matter requires legislative action, as Parliament is better suited to deliberate and legislate on such **complex social issues**.

### Understanding Same-Sex Marriage:

#### What is Same-Sex Marriage?

Same-sex marriage refers to the union between two individuals of the same gender. While it is legally recognized in many parts of the world, **India does not recognize same-sex marriages** or civil unions.

#### Current Legal Status in India:

- Same-sex couples can enjoy certain rights under the concept of **live-in relationships**, as upheld by the **Supreme Court in 2022** under **Article 21** (Right to Life).
- However, they are excluded from the **Special Marriage Act (SMA), 1954**, which allows for civil marriages across religions.
- The **Supreme Court's 2023 ruling** clarified that:
  - There is **no fundamental right to marry** under Indian law.
  - The **SMA does not apply** to same-sex couples.
  - Same-sex couples cannot form **civil unions** or **adopt children**.

#### Arguments in Favor of Legalizing Same-Sex Marriage:

##### 1. Promoting Equality:

- Denying marriage rights to same-sex couples violates the **constitutional principle of equality** and perpetuates discrimination.
- Legal recognition affirms the **dignity and rights of LGBTQIA+ individuals**.

##### 2. Access to Legal and Social Benefits:

- Marriage provides numerous benefits, such as **inheritance rights, tax benefits, and social security**.
- Recognizing same-sex marriages ensures that LGBTQIA+ couples can access these protections.

##### 3. Improved Mental Health: Legal recognition fosters **social acceptance**, reducing stigma and improving the mental well-being of LGBTQIA+ individuals.

##### 4. Aligning with Global Trends:

- Over **30 countries**, including **the Netherlands, United States, Australia, and Canada**, have legalized same-sex marriage.
- India, as a progressive democracy, can enhance its global standing by joining this movement toward **equality**.

#### Global Landscape of Same-Sex Marriage:

- **The Netherlands** was the first country to legalize same-sex marriage in 2001.
- Today, most nations in **North and South America** and **Europe** have recognized same-sex unions.
- Some countries initially acknowledged **civil unions** before transitioning to full marriage equality.

#### Arguments Against Same-Sex Marriage in India:

1. **Cultural and Religious Sensitivities:** Critics argue that same-sex marriage conflicts with **traditional Indian values** and religious beliefs, which predominantly view marriage as a union between a man and a woman.





2. **Legislative Domain:** The **Supreme Court** has stated that the issue falls within the **legislative purview**, making it Parliament's responsibility to enact laws reflecting the **will of the people**.
3. **Social Readiness:** Opponents suggest that Indian society is **not yet prepared** for such a change, fearing backlash from conservative groups.
4. **Alternatives to Marriage:** Some propose **civil unions** or **domestic partnerships** as a compromise, granting legal rights without redefining the traditional concept of marriage.

### Review Petitions in the Supreme Court:

#### What is a Review Petition?

A review petition is a legal mechanism that allows parties to seek reconsideration of a Supreme Court judgment under **Article 137** of the Constitution.

#### Key Details:

- **Grounds for Filing:**
  - An **error apparent** in the judgment.
  - **New and significant information** has come to light.
  - Any other **sufficient reason**.
- **Time Limit:** Must be filed within **30 days** of the judgment.
- **Procedure:**
  - Heard by the same bench that delivered the original judgment.
  - If judges from the original bench have retired, the **Chief Justice** appoints replacements.
- **Outcome:** The court may accept or reject the petition. If accepted, the judgment may be modified or reversed.

#### Implications of the Dismissal:

1. **Status Quo Maintained:** Same-sex couples in India will continue to lack legal recognition for their relationships, including marriage and adoption rights.
2. **Legislative Responsibility:** The ruling highlights the **need for Parliament** to legislate on same-sex marriage, emphasizing the judiciary's limitations in addressing societal issues.
3. **Advocacy for Rights:** The dismissal reinforces the necessity for continued **LGBTQIA+ advocacy** to push for legislative reforms.
4. **Policy Dependency:** Until legislative action is taken, the **LGBTQIA+ community remains dependent** on government policies for their rights and recognition.

#### Did You Know?

- In 2018, the Supreme Court of India decriminalized homosexuality by striking down **Section 377**, a colonial-era law. A survey by Pew Research in 2023 revealed that **48% of urban Indians support same-sex marriage**, indicating growing acceptance. The rejection of review petitions is a reminder that the fight for equal rights continues. While the judiciary has taken significant steps toward recognizing LGBTQIA+ rights, the onus now lies on society and Parliament to ensure **equality and dignity for all**.

### Right to Food and Challenges in India's Public Distribution System (PDS)

**Context:** Despite India's commitment to ensuring the **Right to Food**, inefficiencies in the **Public Distribution System (PDS)** pose significant hurdles in achieving equitable access to essential food grains.

#### Food Insecurity in India:

- **Global Hunger Index (GHI) 2024:** India ranks **105th out of 127 countries**, categorized as having **serious hunger levels**.



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- **State of Food Security and Nutrition in the World 2023 Report:** Approximately **224 million Indians** faced **moderate to severe food insecurity** during 2021-2022.
- **Malnutrition and Poverty:** A large proportion of India's population continues to struggle with undernourishment and lack of access to affordable food, making food security a critical concern.

### Recognition of the Right to Food:

- Globally, the **Universal Declaration of Human Rights** and the **International Covenant on Economic, Social and Cultural Rights (ICESCR)** recognize the **right to food** as fundamental.
- In India, the **Supreme Court ruling in People's Union of Civil Liberties vs. Union of India** established the **Right to Food** as part of the **fundamental right to life** under **Article 21** of the Constitution.

### What is the Public Distribution System (PDS)?

The **PDS** is a food security mechanism aimed at providing subsidized food grains and essential commodities to vulnerable sections of society.

### Key Features of PDS:

1. **Dual Responsibility:**
  - The **central government**, through the **Food Corporation of India (FCI)**, manages procurement, storage, transportation, and allocation of food grains.
  - **State governments** oversee local distribution, beneficiary identification, and issuance of **ration cards**.
2. **Fair Price Shops (FPS):** These serve as distribution points for subsidized food grains under the PDS.

### Challenges in the Public Distribution System:

1. **Food Grain Leakages:** A significant portion of food grains is **diverted** to the black market or lost during transportation.
2. **Exclusion Errors:** **Aadhaar-based biometric verification** often results in eligible individuals being excluded due to technical errors or mismatches.
3. **Corruption:** Malpractices at **Fair Price Shops** include under-weighting goods, selling poor-quality food grains, and charging higher prices than mandated.
4. **Storage and Transport Issues:** **Inadequate warehousing** and transportation infrastructure lead to significant spoilage and wastage of food grains.
5. **Targeting Errors:** Identifying beneficiaries remains a challenge, leading to inclusion of ineligible households and exclusion of deserving ones.

### Reforms and Modernization Efforts:

1. **National Food Security Act (NFSA), 2013:**
  - Provides **legal entitlement** to subsidized food grains for **two-thirds of India's population**.
  - Covers **75% of rural** and **50% of urban populations**.
2. **Targeted Public Distribution System (TPDS):**
  - The **2015 Control Order** clarified roles of the Centre and States, and established a grievance redressal mechanism.
3. **Technological Advancements:**
  - **Digital Ration Cards:** Introduced to eliminate fake and duplicate ration cards.
  - **Aadhaar Integration:** Biometric authentication ensures targeted distribution and reduces ghost beneficiaries.
  - **End-to-End Computerization:** Improves transparency, tracks food grain movement, and minimizes leakages.
4. **Direct Benefit Transfer (DBT):** Piloted in certain regions, **DBT** involves transferring subsidies directly into beneficiaries' bank accounts instead of providing food grains.



5. **Quality Monitoring:** Enhanced mechanisms for **food safety and quality control** ensure better nutritional value for beneficiaries.

#### The Way Ahead:

##### 1. Strengthen Infrastructure

- **Expand storage and transport facilities** to support increasing operational needs.
- Improve warehousing with modern storage techniques to reduce spoilage.

2. **Leverage Technology:** Use **artificial intelligence (AI)** and **blockchain** for real-time tracking, ensuring better accountability and minimizing inefficiencies.

##### 3. Social Audits:

- Conduct **community-led audits** to monitor the PDS and ensure transparency.
- Empower local stakeholders to hold authorities accountable.

4. **Address Exclusion Errors:** Simplify biometric verification and introduce alternatives for Aadhaar-based authentication to prevent unjust exclusions.

5. **Comprehensive Policy Integration:** Link the PDS with other welfare schemes like **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)** to ensure holistic support.

#### Did You Know?

- India's **midday meal scheme**, one of the world's largest school meal programs, complements the PDS by addressing child malnutrition.
- **Chhattisgarh's state-run PDS model** is often cited as a success story for its community-driven approach and transparency mechanisms.

**Conclusion:** While the **Public Distribution System** is a critical pillar of India's food security framework, addressing its inefficiencies is vital to ensuring that the **Right to Food** becomes a reality for all. By combining technological advancements, robust infrastructure, and community involvement, India can overcome these challenges and provide **universal food security**.

TOGETHER WE SCALE HEIGHTS

### Revised Appointment Process for Chief Election Commissioner (CEC)

**Context:** For the first time, the process of appointing the **Chief Election Commissioner (CEC)** will no longer be restricted to seniority-based promotions. The **Chief Election Commissioner and Other Election Commissioners (Appointment, Conditions of Service, and Term of Office) Act, 2023** introduces a revamped selection process, widening the scope for choosing the CEC and Election Commissioners (ECs).



#### Background: Why Was the New Law Introduced?

- **Constitutional Mandate:** Article 324 of the **Indian Constitution** empowers the President to appoint the CEC and ECs, subject to any **Parliamentary law**.
- **Past Practice:** In the absence of such a law, appointments were made based on the recommendations of the **Prime Minister**, often adhering to a seniority-based approach.
- **Supreme Court Intervention:**
  - In 2023, the **Supreme Court** (in the **Anoop Baranwal v. Union of India** case) sought to enhance the independence of the Election Commission by altering the appointment process.
  - A **temporary selection committee** comprising the **Prime Minister**, the **Chief Justice of India (CJI)**, and the **Leader of the Opposition (LoP)** was formed to advise the President.



- The court urged Parliament to enact a specific law governing these appointments.

- **New Legislation:** In response, the Act was introduced, replacing the SC's temporary mechanism.

#### The New Appointment Process:

1. **Structure of the Election Commission:** The Election Commission consists of the **CEC** and **two Election Commissioners**. The current ECs are **Gyanesh Kumar** and **Sukhbir Singh Sandhu**.
2. **Eligibility Criteria:** Section 5 restricts eligibility to individuals who are **current or former Secretary-level officers** in the central or state government.
3. **Departure from Tradition:** Previously, the **senior-most Election Commissioner** succeeded the outgoing CEC. The new Act allows candidates to be selected from **outside the Election Commission**, expanding the talent pool.
4. **Search Committee:**
  - **Formation:** A **Search Committee**, chaired by the **Minister of Law and Justice** and comprising two senior officials, prepares a list of five candidates.
  - **Recommendations:** The panel is submitted to a **Selection Committee** for final consideration.

#### 5. Selection Committee:

- **Composition:** The Selection Committee includes the **Prime Minister**, a **Cabinet Minister**, and the **Leader of the Opposition (LoP)** in the Lok Sabha.
- **Decision-Making:** This committee can choose from the panel or nominate an **external candidate**.

#### Implications of Key Provisions:

1. **Enhanced Flexibility for the Government:** The Act grants the **Executive more discretion** in choosing the CEC, raising concerns about maintaining the Election Commission's independence amidst increasing scrutiny.
2. **Potential for Political Debates:** With the **LoP** included in the Selection Committee, decisions may spark debates and disagreements, especially regarding the credibility and impartiality of the chosen candidate.
3. **Impact on Election Commission Credibility:** Criticism from opposition parties on matters such as **electoral rolls** and **electronic voting machines (EVMs)** could intensify, potentially impacting the public's trust in the institution.

#### Concerns Regarding the New Act:

1. **Exclusion of the Chief Justice of India (CJI):**
  - **SC Ruling Ignored:** The Supreme Court, in its 2023 judgment, emphasized including the **CJI** in the selection process to bolster the Election Commission's independence.
  - **Credibility Concerns:** Omitting the CJI has raised fears of potential **Executive overreach** and erosion of institutional credibility.
2. **Risk of Partisanship:** Former CEC **O.P. Rawat** has warned that the new system could be influenced by **political changes**, reducing the Election Commission's perceived neutrality.
3. **Pending Legal Challenges: Petitions in SC:** The exclusion of the CJI has been challenged, and the Supreme Court is set to review the matter in **February 2025**.

#### Conclusion:

The **Chief Election Commissioner and Other Election Commissioners (Appointment, Conditions of Service, and Term of Office) Act, 2023** marks a significant shift in India's election management framework. While the new process seeks to enhance **transparency** and widen the talent pool, concerns about **Executive overreach**, **institutional independence**, and **partisanship** cannot be overlooked.

### Regional Conference on Drug Trafficking and National Security

**Context:** Union Home Minister Amit Shah chaired the **Regional Conference on 'Drug Trafficking and National Security'**, emphasizing the need for states, UTs, and agencies to adopt a **ruthless approach** against **illegal drug laboratories**.

- Organized by the **Narcotics Control Bureau (NCB)**, the conference aimed to tackle the escalating issue of drug trafficking and its implications for **national security**.



#### Key Highlights from the Conference:

##### Record-Breaking Drug Seizures in 2024:

- India achieved its **highest-ever drug seizures**, confiscating **narcotics worth 16,914 crore** in 2024.
- This represents a **seven-fold increase** in seizures over the past decade, attributed to the government's decisive anti-drug measures.

##### Emerging Challenges: Dark Web and Technology:

- The **dark web**, **cryptocurrency**, and **drones** were identified as significant **technological challenges** in combating drug trafficking.
- What is the Dark Web?**
  - It is a small, encrypted part of the internet that is **inaccessible** through traditional search engines like Google.
  - It requires special tools like **Tor (The Onion Router)** or **I2P (Invisible Internet Project)**.
- The Home Minister urged **collaboration between technocrats, states, and the Central government** to develop effective **technical solutions**.

##### Success Against Narco-Terrorism:

- The government has **dismantled numerous narco-terror networks** in states such as **Jammu & Kashmir, Punjab, Gujarat, and Uttar Pradesh**.
- These efforts have significantly weakened **terrorism linked to drug trafficking**.

##### Drug Disposal Fortnight:

- Drug Disposal Fortnight (January 11–25)** was inaugurated to destroy **1 lakh kg of narcotics worth 8,600 crore**.
- This initiative is part of a **broader strategy** to achieve a **drug-free India by 2047**.

##### Three-Pronged Strategy for a Drug-Free India:

- Strengthening Institutional Frameworks.**
- Enhancing Coordination** among narcotics agencies.
- Public Awareness Campaigns** to educate citizens about the dangers of drug abuse.

##### A Decade of Progress: Seizures and Destruction:

- Between **2004–2014**, only **3.63 kg** of drugs were seized.
- From **2014–2024**, this figure surged to **24 lakh kg**, marking a **seven-fold increase**.
- The value of destroyed drugs rose from **8,150 crore** to **54,851 crore**, reflecting an **eight-fold increase**.

##### NCB's Initiatives and Expansion:

- Inauguration of the NCB Bhopal Zonal Unit** to bolster regional operations.





- **Extension of MANAS-2 Helpline (1933)** across all **36 states and UTs**, enhancing accessibility for reporting drug-related activities.

### Regulatory Framework in India: Fighting the Drug Menace:

#### Constitutional Provisions:

- **Article 47** of the Indian Constitution mandates the State to **prohibit the consumption of intoxicating drugs**, except for medicinal purposes.

#### India's Role in Global Conventions:

##### India is a signatory to:

1. The **Single Convention on Narcotic Drugs (1961)**.
2. The **Convention on Psychotropic Substances (1971)**.
3. The **United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances (1988)**.

#### Key Legislation in India:

1. **Drugs and Cosmetics Act, 1940**.
2. **Narcotic Drugs and Psychotropic Substances Act, 1985**.
3. **Prevention of Illicit Traffic in Narcotic Drugs and Psychotropic Substances Act, 1988**.

#### Institutional Efforts:

- **Narcotics Control Bureau (NCB)** was established in 1986 as a **nodal agency** to combat drug trafficking.
- The **Ministry of Health and Family Welfare (MoHFW)** and **Ministry of Social Justice and Empowerment (MSJE)** handle **drug demand reduction** and **rehabilitation programs**.

#### Technological Interventions:

- **NCORD Portal**: A platform for effective information exchange among agencies.
- **MANAS Helpline (1933)**: A toll-free number to report drug-related activities.
- **NIDAAN Portal**: Tracks narco-offenders nationwide.

#### Additional Measures for a Drug-Free India:

- Creation of **Anti-Narcotics Task Forces (ANTF)** in every state and UT.
- Deployment of **canine squads** for drug detection.
- Establishment of **Special NDPS Courts** and **Fast-Track Courts** for expedited trials.
- **Strengthening forensic capabilities** to investigate drug-related cases.

#### The Vision for 2047: A Drug-Free India:

- The **Nasha Mukt Bharat Abhiyan** is a cornerstone in realizing **PM Modi's vision** of a **developed and drug-free India** by 2047.
- **Collective responsibility**, public awareness, and institutional strength are pivotal in safeguarding the **youth** and securing the nation's future.

### Should Voter IDs Be Linked with Aadhaar?

**Context:** The proposal to link **Voter IDs** with **Aadhaar cards** has sparked intense debate in India, with arguments highlighting both its potential benefits and risks. While the move aims to improve electoral integrity, it raises concerns about privacy, security, and legal implications.



**Background:**

- In **2015**, the **Election Commission of India (ECI)** introduced the **National Electoral Rolls Purification and Authentication Program (NERPAP)** to address duplicate and fraudulent voter entries.
- This program aimed to link **Voter IDs (EPIC)** with **Aadhaar** for better authentication.
- However, the **Supreme Court** intervened, restricting Aadhaar's mandatory use to welfare schemes and **PAN** linking, halting NERPAP.
- In **2021**, the **Representation of the People Act, 1950**, was amended to permit the **voluntary linking** of Voter IDs with Aadhaar to enhance the accuracy of electoral rolls.

**Why Link Voter IDs with Aadhaar?****1. Eliminating Duplicate and Fraudulent Entries:**

- Linking Voter IDs with Aadhaar, which relies on **biometric authentication**, can reduce duplicate or fake voter entries across constituencies.
- The **Election Laws (Amendment) Act, 2021**, empowers electoral officers to request Aadhaar for identity verification.

**2. Enhancing Electoral Roll Accuracy:** Regular Aadhaar-based verification ensures that electoral rolls remain accurate and updated.**3. Administrative Efficiency:** With over **99% of Indian adults possessing Aadhaar**, linking the two can streamline voter verification, reducing time and costs.**4. Supporting Voter Mobility:** Aadhaar linkage can simplify the process for voters relocating to new regions or states by updating their voter registration details easily.**5. Future Innovations:** Aadhaar integration could pave the way for **remote voting** options, enabling migrant workers and others living away from their constituencies to exercise their franchise.**Concerns About Linking Voter IDs with Aadhaar:****1. Privacy and Data Security Risks:**

- Linking these databases could lead to **misuse of personal information**, particularly in the absence of a **robust data protection law**.
- It increases the risk of data breaches, voter profiling, and potential surveillance.

**2. Errors in Data and Authentication:**

- Issues in the Aadhaar database could result in the wrongful inclusion or exclusion of voters, compromising electoral fairness.
- Past instances, like in **Andhra Pradesh** and **Telangana (2015)**, saw **30 lakh voters disenfranchised** due to such errors.

**3. Disenfranchisement Risks:** Failures in biometric authentication (up to **12% error rate**) could unfairly deprive individuals of their voting rights, violating their **Right to Vote**.**4. Legal and Constitutional Challenges:** The **Supreme Court's 2018 Aadhaar judgment** restricted its mandatory usage to welfare schemes, questioning the legality of its use for voter verification.**5. Citizenship Verification Issues:** Aadhaar serves as proof of **residence**, not **citizenship**. Relying on it for voter verification may not prevent non-citizens from being enrolled in electoral rolls.**6. Centralization Risks:** Critics warn of potential misuse of centralized voter data for political gains or voter manipulation.**Current Status in India:**

- Linking **Voter IDs** with Aadhaar is **voluntary**, as clarified by the ECI.



- Voters who cannot provide Aadhaar can use **alternative identification documents** to register or update their details.
- No voter will be denied registration or removed from the electoral roll due to the absence of an Aadhaar number.

#### Global Comparisons:

- Countries like the **United States** and **United Kingdom** use unique identifiers for voter authentication but avoid extensive, biometric-based systems like Aadhaar.
- Most nations prioritize **inclusivity** and **minimizing disenfranchisement**, focusing on voter accessibility.

#### Way Forward:

1. **Robust Legal Safeguards:** Enact a **comprehensive data protection law** to ensure personal data privacy and prevent misuse.
2. **Voluntary Participation:** Keep the process **optional** to avoid disenfranchisement and protect voter rights.
3. **Public Awareness Campaigns:** Educate citizens about the benefits and address concerns regarding privacy and data security.
4. **Independent Oversight:** Establish **independent audit mechanisms** to oversee the system, ensuring accountability and transparency.
5. **Technological Enhancements:** Address errors in Aadhaar data and improve biometric authentication systems to avoid wrongful exclusions.

#### Conclusion:

Linking **Voter IDs** with **Aadhaar** has the potential to enhance electoral roll accuracy, reduce fraud, and improve administrative efficiency. However, significant challenges related to **privacy**, **data security**, and **voter disenfranchisement** cannot be ignored.

A **balanced approach**—prioritizing **voluntary participation**, **robust legal safeguards**, and **public trust-building**—is crucial to ensure that this initiative strengthens **India's democratic processes** without undermining the fundamental rights of its citizens.

TOGETHER WE SCALE HEIGHTS

### Centre-State Clashes on Vice Chancellor Appointments

**Context:** The **University Grants Commission (UGC)** has introduced a draft of new regulations to standardize the appointment of Vice Chancellors in universities. These proposals, however, have sparked disputes between the Centre and states, with allegations of undermining **state autonomy** and violating principles of **federalism**.



#### Understanding VC Appointments:

##### Central Universities:

- Governed by Acts of Parliament and overseen by the Centre, with the **President of India** serving as the **Visitor**.
- Appointment committees include:
  - Two nominees from the university's **Executive Council**
  - One nominee from the **Visitor**

##### State Universities:

- **State-specific laws** determine the structure of search committees.
- Generally, the **Chancellor** (often the **Governor**) appoints the VC based on recommendations.



- Example: In **Kerala**, the committee includes nominees from the **university Senate**, **UGC Chairman**, and the **Chancellor**.

#### Private Universities:

- Private institutions follow similar appointment procedures, with the **UGC** playing a limited role by nominating a representative to the committee.

#### Key Features of the Draft UGC Regulations 2025:

##### 1. New Committee Composition:

- The **search-cum-selection committee** will now include three members:
  - One nominated by the **Chancellor/Visitor**
  - One by the **UGC Chairman**
  - One by the **university's apex body** (e.g., Senate or Syndicate).
- This structure gives a **majority** to **Centre-aligned nominees**, raising state concerns.

##### 2. Expanded Eligibility:

- Beyond academic professors, individuals from **senior roles in industries, public policy, administration, or public sector undertakings** can now qualify as VCs.

##### 3. Chancellor's Role:

- The **Chancellor/Visitor** will directly constitute the search committee, marking a shift from the 2018 guidelines, where states had more influence.

#### Centre vs State: The Battle Over VC Appointments

##### Kerala:

- Disputes began in **2021** when **Governor Arif Mohammad Khan** challenged VC reappointments.
- The state legislature passed a **Bill to replace the Governor as Chancellor**, but it is awaiting Presidential approval.

##### West Bengal:

- The **Supreme Court** is hearing disputes over interim VC appointments made by the Governor without consulting the state.
- A Bill to replace the Governor with the **Chief Minister as Chancellor** is stalled due to lack of assent.

##### Karnataka:

- Proposed laws aim to remove the Governor's role as Chancellor, but these await approval.

##### Maharashtra:

- The new government in **2022** reversed efforts to limit the Governor's authority in VC appointments.

##### Tamil Nadu:

- The **DMK government** has pushed to bypass the Governor's approval in VC selections, but its efforts remain blocked.

#### Federalism Concerns Over VC Appointments:

##### Erosion of State Autonomy:

- States argue that the new regulations centralize power in Governors, reducing the influence of **state governments**.

##### Democratic Concerns:

- Critics view this move as a challenge to **democratically elected state governments** and their authority in education.



### Reactions from State Leaders:

- **Kerala CM Pinarayi Vijayan:** Described the draft as “**anti-federal**” and a violation of state rights.
- **Tamil Nadu CM M K Stalin:** Termed the proposal a “**direct assault on federalism**”.

### UGC's Defense:

- **UGC Chairman M Jagadesh Kumar** justified the reforms, stating they align with the **National Education Policy 2020** and aim to ensure **transparent and high-quality leadership** in higher education.

### Conclusion:

The proposed UGC regulations have deepened Centre-state tensions, especially regarding the role of Governors in **university governance**.

While the Centre views these reforms as essential for improving education standards, states see them as a threat to **federalism** and **state autonomy**.

The resolution of these disputes will not only shape **higher education policies** but also redefine the **Centre-state relationship** in India's governance.

## How Temple Traditions Impact Elephant Welfare and Wild Captures

**Context:** The use of elephants in religious ceremonies has sparked significant debate over **animal welfare**, **public safety**, and **wild captures**. A recent incident in Malappuram, Kerala, where a distressed elephant injured 24 people during a mosque feast, has reignited these discussions, especially amidst ongoing legal disputes.

### Key Statistics:

- Kerala reported **24 captive elephant deaths** in 2024 and **154 deaths** since 2019.
- Between 2011 and 2023, captive elephants killed **196 people** at festivals.
- The **Supreme Court** recently invoked *volenti non fit injuria* (voluntary assumption of risk), stating that devotees attending festivals with elephants accept inherent risks.



### Court Stances on Elephant Use:

#### Kerala High Court's Intervention:

In November 2024, the Kerala High Court mandated strict safety measures for festivals involving elephants:

- **3 meters** between elephants.
- **5 meters** between an elephant and flaming torches.
- **8 meters** between elephants and the public or percussion displays.
- **100 meters** between elephants and fireworks.

These measures, intended to prevent overcrowding, effectively limited the number of elephants used during festivals.

#### Impact on Thrissur Pooram:

The iconic **Thrissur Pooram** festival, initiated in the late 18th century, faced challenges adhering to these guidelines. Organizers deemed the **3-meter distance rule** impractical and escalated the matter to the Supreme Court.

#### Supreme Court's Decision:

- The **Supreme Court** stayed the Kerala HC order, emphasizing that courts should not legislate.
- It reinstated the **Kerala Captive Elephants (Management and Maintenance) Rules, 2012**, which are often flouted, as evidenced by incidents like parading five elephants within confined spaces.

#### Suffering of Elephants in Religious Ceremonies:

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### Lack of Choice for Elephants:

Unlike devotees who voluntarily attend festivals, **elephants are forced into stressful and dangerous environments.**

- The elephant involved in the Malappuram tragedy had a history of aggression and was reemployed after a brief break.

### Health and Stress Impacts:

A 2019 study by the **Center for Cellular and Molecular Biology (CCMB)** revealed alarming stress levels in elephants participating in festivals:

- **Stress hormones** (glucocorticoid metabolites) led to issues like **hyperglycemia, suppressed immunity, and neuronal cell death.**
- Captive elephants in forest camps or zoos had lower stress compared to those in festivals.

### Visible Signs of Distress:

- **Stereotypic behavior:** Head bobbing, weaving, and swaying due to monotony and mental distress.
- **Physical strain:** Kneeling, trunk-lifting, and prolonged standing exacerbate health issues.
- **Noise and light exposure** worsen their agony during ceremonies.

### Continued Wild Captures Despite Legal Protections:

#### Legal Restrictions:

- The **1977 ban on capturing wild elephants** remains, except for treating animals unfit for the wild.
- **Trading captive elephants** was banned in 1986, but loopholes persist, such as gifting elephants to temples.

#### Challenges:

- **Ineffective breeding:** Captive breeding is rare due to challenges in managing aggressive male elephants during musth.
- **Illegal practices:** Wild elephants are falsely registered as captive-bred by tampering with microchips.

### Exploiting Human-Wildlife Conflicts:

Man-elephant conflicts provide a pretext for capturing wild elephants. Politicians often propose relocating "problem elephants" to temples, perpetuating the cycle of captivity.

### The Way Forward:

#### Wildlife Act Amendment (2022):

The amendment allows the central government to frame rules for transferring elephants for "religious and other purposes." This provision risks undoing decades of conservation efforts.

#### DNA Mapping for Better Regulation:

- In 2022, the Centre launched **DNA profiling** of captive elephants to identify bloodlines and improve regulation.
- In six months, **270 elephants** were genotyped, marking a step towards transparency.

### Balancing Culture and Welfare:

Elephants are deeply entrenched in Kerala's cultural and religious traditions, making their removal from festivals challenging. A balanced approach is necessary:

- **Leveraging cultural pride** to promote elephant welfare.
- Implementing and expanding Kerala High Court's safety measures.
- **Judicial guidance**, rather than legislation, to ensure safer practices while respecting traditions.

### Conclusion:



The use of elephants in religious ceremonies highlights the conflict between **tradition, safety, and animal welfare**. While festivals symbolize cultural heritage, ensuring the **well-being of these majestic animals** is crucial. By adopting balanced measures and stricter regulations, India can honor its traditions without compromising the dignity and safety of elephants.

## Odisha Joins the Ayushman Bharat PM-JAY Scheme as 34th State

**Context:** Odisha has recently become the **34th state** to implement the **Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY)**. This move will benefit millions in the state by providing comprehensive healthcare coverage.

The **AB PM-JAY** scheme in Odisha will be implemented in **convergence** with the existing **Gopabandhu Jan Arogya Yojana**, ensuring a wider reach and better healthcare access for the people of the state.

Under this scheme, families will receive coverage of **Rs. 5 lakh** per year, with an **additional Rs. 5 lakh** coverage specifically for **women members**.

### About Ayushman Bharat PM-JAY:

**Ayushman Bharat PM-JAY** is the world's **largest health insurance/assurance scheme**, launched in 2018 by the **Ministry of Health & Family Welfare (MoH&FW)** under the **Ayushman Bharat** initiative. Its primary goal is to achieve **Universal Health Coverage (UHC)** for the nation.

### Key Objectives:

- **Target:** To cover **12 crore families** (approximately **55 crore beneficiaries**).
- **Implementing Agency:** **National Health Authority (NHA)**, an autonomous body under MoH&FW.
- **Funding Pattern:**
  - Fully financed by the government.
  - **60:40** ratio for states (with **90:10** for **Northeastern States** and **Himalayan states** like **Himachal Pradesh, Uttarakhand, and J&K**).
  - For **UTs with legislature**, the funding follows the same ratio, and for **UTs without legislature**, the **Central government** covers **100%** of the cost.

### Key Features and Benefits of AB PM-JAY:

- **Coverage:**
  - Provides **cashless hospital cover** of **Rs. 5 lakh** per family per year for **secondary and tertiary care** in both **public and private empanelled hospitals**.
  - Covers expenses for **up to 3 days of pre-hospitalization** and **15 days post-hospitalization**, including diagnostics and medicines.
- **Special Provision for Senior Citizens:**
  - In 2024, the **Union Cabinet** approved an expansion to include all **senior citizens aged 70 and above** under the scheme.
- **Focus on Women:**
  - Women members of the family are eligible for an **additional Rs. 5 lakh** cover, enhancing the benefits of the scheme.

### Status and Progress of PM-JAY:

- **Digitization and Reach:**

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- The scheme is **fully digitized** and has reached approximately **45%** of India's population.
- **Hospital Admissions:**
  - Since its inception, **8.19 crore hospital admissions** have been recorded.
  - **Rs. 1.13 lakh crore** has been spent to provide healthcare to marginalized communities.
- **Impact on Healthcare Access:**
  - The scheme has improved **access to healthcare**, particularly for cancer patients, with a **33% increase** in treatment availability.

### Conclusion:

The **Ayushman Bharat PM-JAY** scheme is a monumental step in India's healthcare landscape, and with Odisha now on board, millions of families will have access to quality medical care. The expansion of the program, particularly its focus on **senior citizens** and **women**, reflects the government's commitment to improving health equity across the nation.

## Kisan Pehchan Patra: Empowering Farmers with a Digital Identity

**Context:** The **Union Ministry of Agriculture and Farmers' Welfare** has introduced a **mandatory Farmer ID** for enrolling new beneficiaries under the **Pradhan Mantri Kisan Samman Nidhi (PM-KISAN)**. This initiative marks a significant step towards empowering farmers with a **unique, Aadhaar-linked digital identity**, which will streamline access to various government services and schemes.



### Key Features of the Farmer ID:

The **Kisan Pehchan Patra**, or **Farmer ID**, is a **digital identity card** designed to collect and store important information about farmers. Here are some of the key features:

- **Aadhaar Linked:** The ID is **linked to Aadhaar** for accurate identification and tracking.
- **State Land Records Integration:** It is **dynamically connected** to the state land records, ensuring up-to-date and accurate data.
- **Comprehensive Data:** The ID will include **demographic details, crops cultivated, and land ownership information**, creating a detailed profile for each farmer.

### Benefits for Farmers:

The **Kisan Pehchan Patra** is not just an identification card; it brings a range of **benefits** to farmers:

- **Access to Financial Services:** The ID will help farmers access **crop insurance, loans, and other government schemes** with ease.
- **Improved Data Accuracy:** The system will improve the accuracy of farmer data, enabling **better targeting of services and policies**.
- **Streamlined Processes:** It will **simplify the registration process** for various government schemes, eliminating delays and paperwork.

### Impact on the Farming Sector:

The implementation of the **Farmer ID** will play a crucial role in improving the **productivity and sustainability** of the farming sector by:

- **Improving Access to Services:** Farmers will be able to easily access support services such as insurance and loans, which will enable them to invest in improving their productivity.
- **Enabling Targeted Interventions:** The data collected through these IDs will allow for **tailored interventions** based on individual farmer needs, leading to more effective policy implementations.



The initiative aims to enhance the overall welfare of farmers, creating a more **efficient and sustainable farming ecosystem** across India.

### Conclusion:

The **Kisan Pehchan Patra** is a game-changer for farmers, providing them with a **unique digital identity** that is linked to vital agricultural data. By improving access to government services and ensuring **data accuracy**, this initiative will pave the way for a **more productive, efficient, and sustainable agricultural sector**.

## Centre Urges States to Ensure Compliance with Forest Rights Act (FRA)

**Context:** The **Ministry of Tribal Affairs** has directed states to establish a mechanism to ensure compliance with the **Forest Rights Act (FRA)** and address grievances of forest-dwelling communities.

### Key Directives from the Centre:

- Objective:** Protect forest-dwelling communities from unlawful evictions under the FRA.
- Reason:** Multiple complaints from villages in **tiger reserves** across Madhya Pradesh, Maharashtra, and West Bengal about pressure to vacate lands without due recognition of rights under the FRA and Wildlife Protection Act.
- Details Sought from States:**
  - A report on villages within tiger reserves.
  - Details of tribes and forest-dwelling communities residing in such villages.
  - Data on forest rights claims received, approved, and rejected.
  - Processes for seeking consent and compensation mechanisms.



### Forest Cover in India (ISFR 2023):

- Total Forest and Tree Cover:** 8,27,357 sq. km, constituting 25.17% of India's geographical area.
- Top States by Forest Cover:**
  - Madhya Pradesh:** 77,073 sq. km
  - Arunachal Pradesh:** 65,882 sq. km
  - Chhattisgarh:** 55,812 sq. km
- Maximum Increase in Cover:** Chhattisgarh, Uttar Pradesh, Odisha, Rajasthan.

### Forest Protection Laws in India:

#### 1. The Indian Forest Act, 1927:

- Aimed at managing timber and other forest resources.
- Empowers state governments to declare forests as **reserved** or **protected**.

#### 2. Forest Conservation Act, 1980:

- Regulates diversion of forest land for non-forest purposes.
- Requires **central government approval** for such diversions.
- Ensures sustainable forest management and conservation.

#### 4. Forest Rights Act (FRA), 2006:

5.

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Page No

97



- Recognizes the rights of **Scheduled Tribes** and **Traditional Forest Dwellers** over forest resources.
- **Key Provisions:**
  - **Individual and Community Rights:** Include cultivation, habitation, grazing, fishing, and access to water bodies.
  - **Developmental Rights:** Allocation of forest land for basic infrastructure.
  - **Role of Gram Sabha:** Empowers local communities in decision-making and forest conservation.
  - **Habitat Rights:** Special provisions for **Particularly Vulnerable Tribal Groups (PVTGs)** and pastoral communities.

#### Challenges in FRA Implementation:

1. **Bureaucratic Delays:** Slow processing and inadequate resources hinder progress.
2. **Resistance from Forest Officials:** Concerns over losing control of forest resources.
3. **Awareness Gap:** Many communities remain unaware of their rights.
4. **Land Title Issues:** Disputes and outdated records complicate claims.
5. **Forced Evictions:** Conservation efforts often prioritize wildlife protection over community rights.
6. **Weak Forest Rights Committees (FRCs):** Inefficient functioning due to lack of training and political interference.
7. **Inconsistent Political Will:** Uneven implementation across states.

#### Way Forward:

1. **Awareness Campaigns:** Educate communities and train FRCs for effective claims management.
2. **Streamlined Processes:** Simplify procedures for claims verification and land demarcation.
3. **Collaboration with Forest Authorities:** Train officials to balance conservation with community rights.
4. **Technological Integration:** Use advanced mapping tools to resolve land disputes and update records.
5. **Protection Against Evictions:** Focus on safeguarding rights instead of displacement.
6. **Regular Monitoring:** Implement transparent mechanisms to track progress and address grievances.

#### Conclusion:

Ensuring the **rights of forest-dwelling communities** while promoting sustainable forest management is crucial. By strengthening institutional mechanisms and fostering cooperation, India can strike a balance between conservation and the welfare of indigenous communities.

## Global Cybersecurity Outlook 2025: Navigating Emerging Threats

**Context:** The **World Economic Forum (WEF)**, in collaboration with **Accenture**, recently released the **Global Cybersecurity Outlook 2025**. This insightful report delves into the **cybersecurity trends** that will shape economies and societies in the near future. It highlights the evolving complexity of the **cybersecurity landscape**, influenced by factors such as **geopolitical tensions**, emerging technologies, **supply chain vulnerabilities**, and the growing sophistication of **cybercrime**.



#### Key Issues Identified in Global Cybersecurity Outlook 2025:



1. **Geopolitical Conflicts:** Ongoing conflicts, including the **Ukraine war**, have heightened **cyber vulnerabilities** in critical sectors like **energy**, **telecommunications**, and **nuclear power**. These tensions have made national and global infrastructures more susceptible to cyberattacks.
2. **Cybersecurity Readiness:** **Two-thirds** of organizations expect **AI** to impact cybersecurity, but only **one-third** have the necessary tools to assess AI-related risks. Smaller organizations, in particular, face significant challenges in adapting to these new threats.
3. **Cyber Skills Gap:** As of **2024**, the cybersecurity workforce is short by **4.8 million** professionals. Only **14%** of organizations possess the skilled workforce needed to tackle today's cybersecurity challenges, with **public-sector organizations** bearing the brunt of this shortage.
4. **Supply Chain Interdependencies:** Over **50%** of large organizations consider the **complexity of supply chains** a major barrier to **cyber resilience**. Key concerns include vulnerabilities in third-party software, the increasing frequency of **cyberattacks**, and difficulties in enforcing security standards across the supply chain.
5. **Cybercrime Sophistication:** **Cybercriminals** are now using advanced **generative AI** tools to carry out **personalized attacks**, including **phishing** and **social engineering**. In **2024**, **42%** of organizations reported experiencing attacks such as **phishing** and **deepfakes**.
6. **Regulatory Challenges:** A significant **70%** of organizations find existing **cybersecurity regulations** too complex, leading to **compliance difficulties** and a fragmented approach to global cyber defense.

#### Impact of Cybersecurity Threats:

1. **Critical Infrastructure Vulnerabilities:** Cyberattacks on essential services such as **water utilities**, **satellites**, and **power grids** pose serious threats to **public safety**. For instance, a **2024** cyberattack on a U.S. water utility disrupted critical services, highlighting the risks to **infrastructure**.
2. **Biosecurity Risks:** **AI advancements**, cyberattacks, and **genetic engineering** could disrupt laboratories and **public health systems**. This was evidenced by cyber incidents in **South Africa** and the **UK**, which exposed biosecurity vulnerabilities.
3. **Economic Disparity:** There is a growing **cyber resilience gap** between developed regions (**Europe**, **North America**) and emerging economies (**Africa**, **Latin America**). While developed nations are better equipped to tackle cyber threats, emerging economies face greater risks due to limited resources.
4. **Renewable Energy Transition Issues:** The shift toward **renewable energy** systems brings new cybersecurity challenges. **Power grids** are becoming prime targets for **cybercriminals**, as seen in attacks targeting energy infrastructure.

#### Suggestions and Way Forward:

1. **Strategic Investment in Cybersecurity:** Cybersecurity should be viewed as a **strategic investment** rather than merely a technical issue. **Leadership** must focus on both **economic** and **technical dimensions** to ensure robust cyber defenses.
2. **Foster Collaboration:** There is a growing need for **stronger collaboration** between **business leaders** and **cybersecurity experts** to proactively manage emerging threats and minimize risks.
3. **Simplify and Harmonize Regulations:** **Global cybersecurity regulations** must be simplified and aligned to enhance **compliance** and **resilience** across borders, helping organizations better navigate regulatory complexities.
4. **Address the Cyber Skills Gap:** **Upskilling** and **training programs** are essential to bridge the global **cyber skills gap**. Organizations must invest in workforce development to prepare for the challenges ahead.
5. **Focus on Emerging Technologies:** As **AI** continues to reshape cybersecurity landscapes, organizations must **develop tools** to assess and mitigate the risks associated with AI, ensuring a proactive approach to security in the digital age.



The **Global Cybersecurity Outlook 2025** offers vital insights into the evolving cyber landscape, urging global stakeholders to take strategic actions to strengthen defenses and safeguard against future cyber risks.

### Rooster Fights Persist in Andhra Pradesh Despite Police Warnings

**Context:** **Kodi Pandem**, the illegal rooster fighting sport, has deep roots in the rural areas of **Andhra Pradesh**, especially during the **harvest festival**. Despite being banned by the **High Court of Andhra Pradesh** in **2016** and being illegal under both the **Prevention of Cruelty to Animals Act, 1960** and the **Andhra Pradesh Gaming Act, 1974**, this brutal sport continues to thrive, fueled by strong local patronage.



#### Recent Developments: Police Efforts and Technology in Action:

- **Police Raids:** As the festival of **Sankranti** approaches, police forces in **Andhra Pradesh** have stepped up their efforts to crack down on **rooster fights**, targeting **organizers**, **knife manufacturers**, and **habitual offenders**. Special task forces have been formed to monitor and stop these illegal activities.
- **Use of Technology:** In an innovative approach, the **Andhra Pradesh police** are utilizing **drones** and **artificial intelligence (AI)** to **track** and **prevent** rooster fights during the festival season, reflecting a modern approach to enforcing the law.
- **Financial Stakes:** Despite the **ban**, these rooster fights continue to involve significant amounts of money, highlighting the ongoing cultural importance of the practice and the financial incentives that keep it alive.

#### The Prevention of Cruelty to Animals Act, 1960:

The **Prevention of Cruelty to Animals Act, 1960** is a key law aimed at ensuring the welfare of animals by preventing unnecessary harm or suffering. Some key provisions include:

- **Cruelty (Section 11):** This section defines cruelty to animals, prohibiting activities like **beating**, **kicking**, **torturing**, or **overloading** animals. It also outlaws the **organizing** or **participating** in animal fights.
- **Animal Welfare Board of India (AWBI):** Section 4 establishes the **AWBI**, which works to promote animal welfare, advise the government, and ensure the enforcement of the Act.
- **Exemptions (Section 28):** The law allows for the **humane killing** of animals in specific contexts, such as for food or religious purposes.

#### State-Wise Animal Fights in India:

Although **Kodi Pandem** is banned, various forms of **animal fights** continue to take place across **India** during festivals. Here's an overview of such events:

- **Jallikattu** (Tamil Nadu): A **bull-taming** event during **Pongal**, where participants attempt to hold onto a bull's hump.
- **Cockfights (Kodi Pandem)** (Andhra Pradesh, Telangana, Kerala): Roosters with **blades attached** to their legs fight, especially during **Sankranti**.
- **Kambala** (Karnataka): A **buffalo race** held on **slushy fields**, celebrating farming traditions.
- **Bullock Cart Races** (Maharashtra, Karnataka): **Bullocks** race on tracks during **festivals** or **rural fairs**.
- **Bulbul Fights** (Assam): **Nightingales** are forced to fight during the **Bhogali Bihu** festival.
- **Buffalo Fights** (Assam, Odisha): **Buffaloes** battle each other during **Bhogali Bihu** and **Dussehra** festivals.
- **Camel Fights** (Haryana, Rajasthan): **Camels** are made to fight at **fairs**.
- **Dhirio (Bull Fights)** (Goa): Traditional **bullfights** during **local fairs**.





- **Polo with Ponies** (Manipur): Traditional **polo** played using **ponies**, raising concerns about **pony welfare**.

### Conclusion: The Ongoing Battle Against Animal Cruelty

Despite significant efforts by law enforcement and modern technology, the **practice of rooster fights** and other animal-related sports continues to be deeply ingrained in certain parts of India. The **financial stakes** and cultural significance of these events make it a challenging issue to fully eradicate, highlighting the need for more robust enforcement and public awareness to prevent cruelty towards animals.

## Celebrating Great Anniversaries of Peace Initiatives

**Context:** The year **2025 marks 80 years** since the first nuclear weapon test, underscoring the importance of **peace initiatives** in promoting global disarmament and fostering international cooperation. This milestone serves as a reminder of the **devastating power of nuclear weapons** and the need for continued efforts toward peace.



### The Threat of Nuclear Weapons:

#### Devastating Consequences:

- The world witnessed the catastrophic effects of nuclear weapons in the **Hiroshima and Nagasaki bombings of 1945**, which resulted in over **200,000 deaths** and long-term health consequences from radiation exposure.
- The potential for a **nuclear winter**—a scenario where soot and debris block sunlight, disrupting agriculture and causing mass starvation—remains a global concern.

#### Escalation of Global Conflicts:

- The **Cold War arms race** demonstrated how nuclear proliferation increases tensions, with the doctrine of **Mutually Assured Destruction (MAD)** deterring open warfare but perpetuating fear.
- Incidents like the **Cuban Missile Crisis (1962)** highlight how misunderstandings and miscalculations can bring humanity to the brink of catastrophe.

#### Risk of Accidents:

- **Human error**, technical failures, or **cyberattacks** could trigger unintended nuclear detonations, posing a grave threat to global security.

#### Nuclear Powers in the World:

Currently, **nine nations** possess nuclear weapons, often referred to as "nuclear-armed states":

- **United States, Russia, China, United Kingdom, France, India, Pakistan, North Korea, and Israel.**

#### Understanding Nuclear Disarmament:

- **Nuclear Disarmament** refers to the **reduction or elimination** of nuclear weapons, either unilaterally or through reciprocal agreements.
- It can involve reducing the **number of weapons** or abolishing entire categories of them.

#### Key Peace Initiatives in History:

##### The Russell-Einstein Manifesto (1955):

- Led by **Bertrand Russell** and **Albert Einstein**, this manifesto warned of the existential threat posed by nuclear weapons.
- It urged world leaders to pursue **peaceful conflict resolutions** and highlighted the moral responsibility of scientists in preventing nuclear catastrophes.

##### The Avadi Resolution (1955):

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- Under the leadership of **Jawaharlal Nehru**, the **Indian National Congress** called for the **United Nations Disarmament Commission** to work toward a global consensus for the **total prohibition of nuclear weapons**.

### India's Role in Promoting Peace and Disarmament:

#### Major Contributions:

- Avadi Resolution:** India's call for global nuclear disarmament began with this historic resolution.
- Rajiv Gandhi Action Plan (1988):** Proposed a **step-by-step roadmap** for a nuclear weapons-free and non-violent global order.

#### Stand on International Treaties:

- Nuclear Non-Proliferation Treaty (NPT), 1968:** India opposed the treaty, citing its **discriminatory nature**, as it allowed existing nuclear powers to retain their arsenals while restricting others.
- Comprehensive Nuclear-Test-Ban Treaty (CTBT), 1996:** India refused to sign, arguing that it failed to ensure **disarmament by nuclear-armed states**.

#### No First Use (NFU) Policy:

- Following its **1998 nuclear tests**, India adopted a **No First Use** policy, pledging not to use nuclear weapons as a first strike but only in retaliation.

### Way Forward for a Peaceful Future:

#### Strengthening Multilateralism:

- India should continue advocating for **United Nations reforms** to ensure that disarmament efforts are equitable and inclusive.

#### Leveraging Technology for Peace:

- Artificial Intelligence (AI)** and **cybersecurity** should be central to global discussions, with India leading efforts to prevent the misuse of technology in controlling or accessing nuclear weapons.

#### Collaborative Diplomacy:

- Encouraging dialogue among nuclear powers and non-nuclear states can pave the way for meaningful progress toward **global disarmament** and peace.

As the world reflects on **80 years of nuclear history**, the importance of peace initiatives remains ever-relevant. By learning from history and working collaboratively, nations can strive for a **future free from the shadow of nuclear weapons**.

### Lokpal of India Celebrates 1st Foundation Day

**Context:** On **January 16, 2025**, the **Lokpal of India** celebrated its **Foundation Day**, commemorating **11 years** since its establishment on **January 16, 2014**, under the **Lokpal and Lokayuktas Act, 2013**.

#### Historical Background:

The creation of the Lokpal is rooted in efforts to combat corruption, with notable milestones including:

- First Administrative Reforms Commission (1966):** Recommended a **two-tier system**—Lokpal at the Union level and Lokayuktas at the State level.
- Lokpal and Lokayuktas Act, 2013:** Enacted to establish statutory bodies aimed at tackling **corruption in public offices**.





- **Inception of Lokpal:** Officially constituted on **January 16, 2014**, with its first Chairperson, **Justice Pinaki Chandra Ghosh**, appointed in **2019**.
- **Global Commitment:** As a signatory to the **United Nations Convention Against Corruption (2005)**, India has reaffirmed its dedication to combating corruption.

### Lokpal: Mandate and Performance

#### Legal Authority:

The **Lokpal** derives its powers from the **Lokpal and Lokayuktas Act, 2013**, which empowers it to:

- **Investigate corruption allegations** against public officials, including:
  - The **Prime Minister**, subject to safeguards involving **national security** and **public order**.
  - **Union Ministers, Members of Parliament**, and **all public servants**.
  - Organizations receiving **foreign contributions** exceeding ₹10 lakh.
- Exercise **supervisory authority** over the **CBI**, ensuring accountability in investigations.

#### Composition:

- **Chairperson:** Must be a former **Chief Justice of India, Supreme Court Judge**, or an **eminent person** with integrity and expertise.
- **Members:** Up to **8 members**, with at least **50% judicial representation** and **50% from underrepresented groups** (SC/ST/OBC, minorities, and women).

#### Appointment and Tenure:

- Appointed by the **President of India** based on recommendations from a **Selection Committee** comprising:
  - **Prime Minister** (Chairman).
  - **Speaker of the Lok Sabha**.
  - **Leader of Opposition in the Lok Sabha**.
  - **Chief Justice of India** or an **eminent jurist**.
- **Tenure:** 5 years or until the age of **70**, whichever is earlier.

#### Key Achievements:

- Established a **prosecution wing** to streamline corruption cases.
- Improved oversight of **public servants** and entities funded by the central government.
- Leveraged **technology-driven processes** to enhance transparency and accountability.

#### Key Challenges Facing Lokpal:

##### 1. Delayed Appointments and Staffing:

- The first Lokpal, **Justice Pinaki Chandra Ghosh**, was appointed in **March 2019**, six years after the Act's passage.
- The current Lokpal, **Justice (retd) A.M. Khanwilkar**, was appointed in **March 2024**.
- Persistent delays in staffing critical positions, such as the **Director of Inquiry** and **Director of Prosecution**, hinder efficiency.

##### 2. Procedural Hurdles in Investigations:

- Nearly **90% of complaints** filed over the last five years were rejected due to procedural errors or incorrect formats.

##### 4. Coordination with Investigative Agencies:

5.



- The Lokpal heavily relies on **external agencies** like the CBI for conducting probes. Ensuring smooth collaboration and avoiding bureaucratic delays remain major challenges.

#### Way Forward:

##### 1. Strengthening Infrastructure:

- Enhance staffing levels, increase **budgetary allocations**, and provide technological support to ensure faster and more thorough investigations.

##### 2. Improved Coordination:

- Strengthen partnerships with **anti-corruption agencies** like the CBI to expedite case resolution and streamline investigations.

##### 3. Awareness Campaigns:

- Educate citizens about the **Lokpal's role**, jurisdiction, and procedural requirements to encourage **active public participation** in reporting corruption.

##### 4. Promoting Transparency:

- Regularly disclose updates on investigations, within legal boundaries, to build **public trust** and demonstrate accountability.

#### Conclusion:

The **Lokpal of India** has emerged as a pivotal institution in the fight against corruption. By addressing infrastructure gaps, fostering better coordination with investigative agencies, and promoting transparency, the Lokpal can solidify its role as a **cornerstone of accountability** and governance in India. As it enters its 12th year, its journey reflects India's commitment to a **corruption-free society** and the rule of law.

### Fast Track Immigration: Trusted Traveller Programme (FTI-TTP)

**Context:** The **Fast Track Immigration - Trusted Traveller Programme (FTI-TTP)** is a transformative initiative aimed at simplifying and securing international travel for Indian nationals and Overseas Citizens of India (OCI). The programme aligns with India's vision for development, offering world-class immigration facilities with advanced technologies.



#### Why in News?

On **January 16, 2025**, Union Home Minister **Amit Shah** inaugurated the **FTI-TTP** at **seven airports**:

- Mumbai, Chennai, Kolkata, Bengaluru, Hyderabad, Cochin, and Ahmedabad.**

Initially launched **seven months ago** at Delhi's IGI Airport, the FTI-TTP aims to provide **accelerated immigration pathways**, including **automated e-gates** for quicker screening of international travellers.

Fast Track Immigration - Trusted Traveller Programme (FTI-TTP)

FTI-TTP and 'Viksit Bharat @2047' Vision

This programme supports the '**Viksit Bharat @2047**' agenda, envisioning India as a **developed nation** by its **centenary of independence**.

#### Launch and Objectives:

- First introduced:** June 2024 at IGI Airport Terminal 3.
- Goal:** To facilitate faster, smoother, and secure immigration for **Indian nationals** and **OCI passengers** arriving from abroad.

#### Key Features of FTI-TTP:

- Free of Cost:** Initially offered **gratis** to Indian citizens and OCI cardholders.

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- **Enhanced International Mobility:** Automates and streamlines immigration processes for better efficiency.

**Implementation:**

The **Bureau of Immigration** under the **Ministry of Home Affairs** oversees the implementation of the programme.

**How FTI-TTP Works:****Enrollment Process:**

Applicants register online via the **official portal**: <https://ftittp.mha.gov.in>.

1. Submit necessary details and documents for verification.
2. Approved applicants are added to the **Trusted Travellers Whitelist** for seamless e-gate access.

**Biometric Verification:**

- Biometric data is collected either at the **Foreigners Registration Office (FRRO)** or during airport transit.
- Registration is valid until the **passport expires** or for **five years**, whichever is earlier.

**Immigration Clearance Process:**

1. **Boarding Pass Scan:** Registered travellers scan their boarding pass at e-gates.
2. **Passport Verification:** The passport is scanned to confirm identity.
3. **Biometric Authentication:** Traveller's biometrics are verified at e-gates.
4. **Automated Clearance:** E-gates open upon successful verification, completing the process.

**Implementation Phases:**

1. **Phase 1:**
  - Covers **Indian citizens** and **OCI cardholders**.
  - Implemented at **seven airports**, including **Mumbai, Chennai, Kolkata, Bengaluru, Hyderabad, Cochin, and Ahmedabad**.
2. **Phase 2:**
  - Expands to **foreign travellers**.
  - Targets rollout across **21 major airports nationwide**.

**Global Fast-Track Immigration Programmes:**

India joins several countries in adopting fast-track immigration systems to enhance global mobility.

1. **United States: Global Entry Programme (2008)**
  - **Expedited clearance** for pre-approved, low-risk travellers.
  - Utilises **self-service kiosks** for passport and fingerprint scans.
  - Requires a **detailed background check** and **in-person interview**.
2. **United Kingdom: Registered Traveller Service (2015)**
  - Fast-track access for frequent visitors from specific countries.
  - Enables use of **eGates** at major UK airports.
3. **European Union: Smart Borders Initiative (2016)**
  - Implements the **Entry/Exit System (EES)** to pre-register data, including biometrics, for non-EU nationals.
  - Enhances **security** and **efficiency** for Schengen Area entry.

#### 4. Australia: SmartGate System (2007)

- Automated kiosks for verifying identity using **passport scans and photographs**.
- Initially limited to Australian and New Zealand passport holders but now includes select foreign nationals.

#### 5. Saudi Arabia: Smart Travel System (2019)

- **e-Gates** for faster immigration clearance using **biometric verification** (facial recognition and fingerprints).
- Expanded under the **Vision 2030** initiative to cater to increasing international visitors.

Significance of FTI-TTP

- **Faster Immigration:** Reduces waiting times for international travellers.
- **Enhanced Security:** Ensures thorough verification with **biometric authentication**.

### First Executive Orders by Donald Trump (47th President of the U.S.)

**Context:** On his first day in office, Donald Trump, as the **47th President of the U.S.**, signed a series of impactful executive orders, signaling his administration's policy priorities.



**About Executive Orders:**

- **Definition:** Official directives issued by the President to manage the federal government, enforce laws, or set significant policy initiatives.
- **Scope:** Can range from routine administrative tasks to major policy shifts, bypassing the need for Congressional approval.
- **Usage:** Often employed to achieve goals that face legislative hurdles.

**Key Highlights of Trump's Executive Orders:**

#### 1. Pardons:

- Pardoned **1,500 individuals**, including:
  - Participants in the **January 6, 2021 Capitol riot**, such as members of the **Proud Boys** and **Oath Keepers**.

#### 2. Immigration:

- **Reversed Biden-era policies**, prioritizing deportation of all undocumented immigrants.
- Suspended the **U.S. refugee resettlement program** for four months.
- Declared a **national emergency** on the U.S.-Mexico border, deploying troops for immigration enforcement.
- Proposed ending **birthright citizenship**, anticipating legal challenges.

#### 3. Undoing Biden Policies:

- Revoked **78 executive orders** signed by Biden, including:
    - COVID-19 relief measures.
    - Diversity, equity, and inclusion (DEI) initiatives.
    - Clean energy policies.
  - Directed federal agencies to preserve records related to **alleged political persecutions**.
3. **Diversity and Inclusion:** Rescinded Biden's executive orders promoting DEI and LGBTQ+ protections.

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Freedom UPSC with **Dhananjay Gautam**



## 5. Government Efficiency:

- Created the **Department of Government Efficiency (DOGE)**, led by **Elon Musk**, to streamline federal operations.
  - Faced immediate legal challenges over its scope and jurisdiction.

## 6. Climate and Energy:

- Withdrew from the **Paris Climate Agreement**.
- Reversed restrictions on **oil drilling** in the Arctic and on federal lands, focusing on **energy independence**.
- Declared a **national energy emergency** to boost domestic oil and gas production.

## 7. Inflation and Economy:

- Ordered departments to implement measures to combat inflation, attributing it to Biden's policies.
- Proposed **25% tariffs** on Canada and Mexico.
- Directed agencies to assess **China's compliance** with trade agreements.

## 8. Foreign Policy and Aid:

- Paused **foreign development assistance** for 90 days to ensure alignment with U.S. interests.
- Rejected the **OECD global minimum corporate tax deal**, citing the need for Congressional approval.

**9. Free Speech:** Signed an order to restore **freedom of speech** and end federal censorship of online platforms.

**10. Health Policy:** Withdrew from the **World Health Organization (WHO)**, citing its handling of the COVID-19 pandemic.

## Implications for U.S.-India Relations:

### 1. Trade Policies:

- Protectionist stance:** Higher tariffs on Indian exports could strain trade relations, as the U.S. is India's largest export market.
- WTO violations:** Trump's trade policies could lead to disputes at the **World Trade Organization**, complicating bilateral relations.

### 2. Opportunities in Manufacturing:

- Anti-China stance:** India could benefit from shifting supply chains, particularly through **production-linked incentives (PLIs)**.
- Challenges:** India must implement structural reforms to maximize these opportunities.

### 3. Technology and Innovation:

- India's **STEM talent** could gain from U.S. investments in emerging technologies such as **AI** and **quantum computing**.
- IT sector growth:** Potential expansion in India's IT services, although restrictions on **H-1B visas** may pose risks.

### 4. Immigration and Visas:

- Stricter immigration policies, including **H-1B visa restrictions**, could negatively impact Indian professionals.
- IT firms:** May face difficulties in deploying talent to the U.S. market.

### 5. Energy and Climate:

- Divergence:** Trump's focus on fossil fuels contrasts with India's renewable energy goals, complicating cooperation in climate initiatives.

## Conclusion and Way Forward:



Donald Trump's presidency signals a potential reshaping of **global economic dynamics**, including U.S.-India relations. While challenges such as **protectionist trade policies**, **immigration restrictions**, and **divergent energy priorities** may arise, opportunities exist in areas like **manufacturing**, **technology**, and **regional security**.

## Uniform Civil Code (UCC) Rules in Uttarakhand

**Context:** The **Uttarakhand Cabinet** has approved rules for implementing the **Uniform Civil Code (UCC)**, marking a significant step toward legal uniformity in personal matters.



### Background:

- **Historic Legislation:**
  - In **2024**, Uttarakhand became the first Indian state post-independence to adopt a UCC through the **Uniform Civil Code of Uttarakhand Act, 2024**.
- **Key Provisions:**
  - **Marriage and Divorce:**
    - Bans **polygamy**, **nikah halala**, **child marriage**, and **extrajudicial divorces**.
    - Establishes uniform marriageable ages (**21 years for men**, **18 years for women**).
  - **Property Rights:**
    - Grants **equal property rights** to women, while retaining personal laws on **guardianship** and **Hindu Undivided Families**.
  - **Live-in Relationships:**
    - Recognizes **live-in relationships** as quasi-marriages, ensuring the legitimacy of offspring.

### What is the Uniform Civil Code (UCC)?

A **Uniform Civil Code** refers to a unified set of laws that apply to all citizens, irrespective of religion, for personal matters such as marriage, divorce, inheritance, and adoption.

- **Objective:**  
Replace diverse personal laws with a common legal framework for equitable governance and social harmony.

### Constitutional Provisions:

1. **Article 44:**
  - Part of the **Directive Principles of State Policy (DPSP)**, it urges the state to work toward implementing a UCC across the country.
  - Though not enforceable by courts, DPSPs guide governance to ensure justice and equity.
2. **Other References:**
  - **Article 25 and 26:** Guarantee the right to freely practice and manage religious affairs.
  - The **Sixth Schedule** protects the autonomy of tribal communities.

### UCC in India:

- **Goa as a Precedent:**
  - Goa follows the **Portuguese Civil Code of 1867**, ensuring uniformity in laws governing marriage, divorce, and succession across all religions.
  - The **Goa Daman and Diu Administration Act of 1962** allowed the continuation of this Civil Code after Goa joined India.



**Arguments in Favor of UCC:**

1. **Uniformity in Governance:** Streamlines legal systems and administrative processes, ensuring fair and efficient justice.
2. **Women's Rights:** Eliminates discriminatory practices in personal laws, providing an egalitarian framework for gender equality.
3. **Secularism:** Reinforces the secular fabric of the nation by treating citizens equally, regardless of religion.
4. **Judicial Support:** The **Supreme Court**, in cases like **Mohd. Ahmed Khan vs Shah Bano Begum (1985)**, has called for UCC implementation to promote equality.
5. **National Integration:** Promotes a shared legal platform for all communities, fostering unity and national spirit.

**Arguments Against UCC:**

1. **Diversity in Laws:** Critics argue that India's pluralistic society makes "one nation, one law" challenging to implement, given existing variations in codified civil and criminal laws.
2. **Implementation Issues:** Practical difficulties in harmonizing laws across communities with distinct traditions and practices.
3. **Threat to Tribal Customs:** Tribal communities fear their unique marriage and death rituals may be restricted under a uniform code.
4. **Potential Unrest:** The UCC could be perceived as **tyranny of the majority**, sparking social and political unrest.
5. **Constitutional Concerns:** Opponents view UCC as infringing on religious freedoms guaranteed under **Articles 25 and 26**.
6. **Law Commission's Stand:** The **Law Commission of India** has stated that a UCC is "**neither necessary nor desirable**" at this stage and emphasized reforming discriminatory practices within existing personal laws.

**Way Forward:**

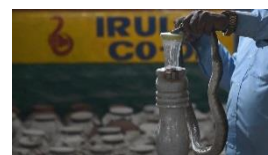
1. **Inclusive Dialogue:** Authorities must consult diverse communities, legal experts, and stakeholders to foster inclusivity and transparency.
2. **Focus on Internal Reform:** Address inequalities **within communities** rather than forcing uniformity **between communities**, as recommended by the Law Commission.
3. **Gradual Implementation:** Pilot programs in willing states like Uttarakhand can provide a roadmap for scaling UCC nationwide.
4. **Educational Campaigns:** Raise awareness about UCC to dispel misconceptions and ensure public participation.

**Conclusion:**

The implementation of the **Uniform Civil Code** in Uttarakhand marks a significant step toward legal uniformity and social reform. However, its national adoption requires careful balancing of constitutional freedoms, cultural diversity, and societal consensus. A collaborative and inclusive approach will be essential to ensure that the UCC fosters equality, justice, and unity in India's diverse landscape.

**Accessibility of Antivenoms in India**

**Context:** India, despite being the largest producer and consumer of antivenoms, accounts for nearly **50% of global snakebite deaths**, emphasizing the urgent need to address challenges in antivenom accessibility and efficacy.

**Snakebite Envenoming:**

- **WHO Classification:**



- Recognized as a **high-priority neglected tropical disease** by the World Health Organization (WHO).
- Globally, **1.8–2.7 million people** are envenomed annually.
- **Snakebite Scenario in India:**
  - Around **58,000 deaths** are reported annually from **3-4 million snake bites**.
  - **90% of snakebites** are caused by the "big four":
    - **Common krait, Indian cobra, Russell's viper, and saw-scaled viper.**

#### Antivenom Production and Use:

1. **Antivenoms:**
  - Purified antibodies designed to **neutralize snake venom toxins**.
  - Listed as essential medicines by the WHO.
2. **Production Process:**
  - Horses are injected with controlled venom doses, prompting their immune systems to produce antibodies.
  - Antibodies are collected, purified, and formulated into antivenoms for human use.

#### Challenges in Accessing Antivenoms:

1. **Geographical Barriers:**
  - Rural and remote areas often lack **healthcare facilities** equipped with antivenoms.
2. **Limited Venom Coverage:**
  - Indian antivenoms primarily target the "**big four**" snakes.
  - Other venomous species, such as **king cobras** and **pit vipers**, are not covered, leading to ineffective treatment.
3. **Cultural and Social Factors:**
  - Superstitions and delayed medical intervention due to **traditional practices** in rural areas worsen outcomes.
4. **Economic Constraints:**
  - **High production costs** make antivenoms inaccessible to economically disadvantaged populations.
5. **Infrastructure and Logistics:**
  - **Cold storage requirements** remain unmet in rural areas due to power and infrastructure deficits.
  - Improper storage reduces the **efficacy** of antivenoms.

#### Role of the Irular Community:

- The **Irular tribe** is renowned for its expertise in **snake-catching**.
- Their ability to extract venom safely in controlled environments ensures a **steady supply** of high-quality venom for antivenom production in India.

#### Way Forward:

1. **National Action Plan for Snakebite Envenoming (NAP-SE):**
  - Aims to reduce **snakebite deaths** and **disabilities by 50% by 2030**.
  - Focuses on prevention, timely treatment, and rehabilitation.
2. **Innovative Antivenom Development:**
  - Use of **recombinant DNA technology** to produce synthetic antivenoms free from animal-derived proteins.

- Ensures greater **safety** and **efficacy**.
- 3. **Diagnostic Advancements:**
  - Introduction of **portable venom-detection kits** and rapid diagnostic tools for precise and timely treatment.
- 4. **Awareness Campaigns:**
  - Educating rural populations to overcome **superstitions** and seek immediate medical attention after snakebites.
- 5. **Improving Infrastructure:**
  - Ensuring **cold storage** and proper distribution channels for antivenoms in remote areas.

### Conclusion:

Addressing the challenges in antivenom accessibility requires a **multi-faceted approach**, including technological advancements, enhanced infrastructure, and public awareness. With the **NAP-SE** and innovative strategies, India has the potential to significantly reduce snakebite-related mortality and morbidity, transforming the lives of millions.

## National Tribal Health Conclave 2025: Advancing Healthcare for Tribal Communities

**Context:** The **National Tribal Health Conclave 2025** was recently held at **Bharat Mandapam, New Delhi**, bringing focus to the health and well-being of tribal communities across India.

### Tribal Communities: Custodians of Rich Traditions

#### Who are Tribal Communities?

Tribal communities in India are known for their **vibrant traditions**, **unique lifestyles**, and **rich cultural heritage**. These groups often live in **geographical isolation**, maintaining a **self-contained, homogeneous** way of life compared to non-tribal populations.



#### Tribal Presence in India:

- India is home to one of the **largest tribal populations** in the world, with nearly **100 million tribal people**, often referred to as **"Adivasis"** (original inhabitants).
- The term **"Adivasi"** is internationally recognized, with the **International Labour Organization (ILO)** classifying them as **indigenous peoples**.
- According to **Census 2011**, tribes account for **8.9% of India's population**.

#### Settlement Patterns:

- **Northeastern Tribes:** Found in states like Nagaland, Mizoram, and Manipur, they live in **relative isolation**, preserving distinct ethnic identities.
- **Central and Southern Tribes:** Constituting over **80%** of the tribal population, they interact more frequently with non-tribal communities.

#### Historical Significance of Tribal Communities:

- Tribal groups have played a pivotal role in **Indian history** since the eras of the **Ramayana** and **Mahabharata**.
- Their contribution to the **freedom struggle** includes iconic movements such as the **Khasi-Garo, Mizo, and Kol uprisings**.
- Adivasi leaders like **Gond Maharani Veer Durgavati**, **Rani Kamalapati**, and the **Bhils**, who supported **Maharana Pratap**, exemplify their courage.



- To honor tribal contributions, **November 15** is celebrated as **Janjatiya Gaurav Divas**, marking the birth anniversary of **Bhagwan Birsa Munda**.

### Key Government Initiatives for Tribal Welfare:

#### Empowering Tribal Development:

- TRIFED (Tribal Cooperative Marketing Development Federation of India Limited)**: Established in 1987 under the **Ministry of Tribal Affairs**, TRIFED supports tribal livelihoods.
- Pradhan Mantri Adi Adarsh Gram Yojana (PMAAGY)**: Focuses on improving infrastructure in villages with a significant tribal population.
- PM JANMAN (Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan)**: Launched in 2023, this initiative targets the socio-economic upliftment of **Particularly Vulnerable Tribal Groups (PVTGs)**.

#### Improving Tribal Health:

- National Tribal Health Conclave**: Jointly organized by the **Ministry of Tribal Affairs (MoTA)** and the **Ministry of Health and Family Welfare (MoH&FW)**, it aims to enhance health services for tribal populations.
- National Sickle Cell Elimination Mission**: Launched by **Prime Minister Narendra Modi** to eliminate sickle cell anemia by 2047.
- Bhagwan Birsa Munda Chair of Tribal Health and Haematology**: Established at **AIIMS Delhi** for dedicated research on tribal health issues.

#### Constitutional Safeguards for Tribal Communities:

The **Indian Constitution** ensures special provisions to protect the rights and promote the welfare of tribal groups:

- Article 275(1)**: Allocates funds to states for tribal welfare and development programs.

#### Challenges Faced by Tribal Communities:

##### Key Issues:

- Economic Disparities**: Many tribes face **poverty, unemployment**, and limited access to **education and healthcare**.
- Cultural Erosion**: Loss of **traditional knowledge** and challenges in preserving **cultural heritage**.
- Discrimination and Representation**: Tribes often encounter **marginalization** and lack sufficient **representation** in decision-making processes.

#### The Road Ahead: Comprehensive Development for Tribal Communities

##### A Holistic Approach:

- Respect for Cultural Heritage**: Recognizing and preserving the **unique identity** and **traditional practices** of tribal groups.
- Inclusive Decision-Making**: Involving tribal communities in **policy-making** related to their **lands and resources**.
- Enhanced Healthcare Access**: Strengthening health infrastructure and delivery systems to address **tribal-specific challenges**.
- Focused Government Policies**: Continued support through **targeted programs** for education, employment, and healthcare.

By addressing these issues, India can ensure that its **tribal communities** not only thrive but also contribute significantly to the nation's progress. As custodians of ancient traditions and wisdom, their development is essential for building a more **inclusive and equitable society**.



### 10 Years of Beti Bachao, Beti Padhao (BBBP) and Sukanya Samriddhi Yojana (SSY)

**Context:** India marks the **10th anniversary** of two landmark initiatives—**Beti Bachao, Beti Padhao (BBBP)** and **Sukanya Samriddhi Yojana (SSY)**—with celebrations from **22nd January 2025 to 8th March 2025** (International Women's Day). These programs have significantly contributed to **gender equality, girl child empowerment, and improvement in the Child Sex Ratio (CSR)**. The occasion also saw the launch of the **Mission Vatsalya Portal** (for child welfare) and the **Mission Shakti Portal** (for women's safety and empowerment).



#### About Beti Bachao, Beti Padhao (BBBP):

- **Launch Date:** 22nd January 2015 in Haryana, responding to the low CSR of **918 girls per 1,000 boys** (2011 Census).
- **Objectives:**
  - Improve the **Child Sex Ratio (CSR)**.
  - Promote **gender equality** and **women empowerment**.
  - Prevent **gender-biased sex-selective elimination**.
  - Ensure **survival, protection, and education** of the girl child.
- **Implementation:**
  - Fully funded by the **Central Government**.
  - No provision for **Direct Benefit Transfer (DBT)**.
- **Ministries Involved:**
  - **Women and Child Development**.
  - **Health and Family Welfare**.
  - **Education** (formerly Human Resource Development).

#### About Sukanya Samriddhi Yojana (SSY):

- **Purpose:** Secure the **financial future of girl children** through tax-saving, high-return savings accounts for education and welfare.
- **Eligibility:**
  - Families with **girl children under 10 years**.
  - Only **resident Indians** can participate (NRIs are excluded).
- **Mechanism:**
  - Accounts opened in the **girl's name** under **Sukanya Samriddhi Account (SSA)**

#### Achievements Over the Decade:

1. **Improved Child Sex Ratio (CSR)**
  - CSR increased from **918 (2014-15)** to **933 (2022-23)**.
  - Enforcement of the **Pre-Conception and Pre-Natal Diagnostic Techniques (PCPNDT) Act, 1994** helped curb gender-biased sex-selective practices.
2. **Boost in Female Enrollment in Schools:**
  - **Free/subsidized education, Swachh Bharat toilets, and scholarships** reduced dropout rates.



- Initiatives like **Kasturba Gandhi Balika Vidyalyayas** improved **primary and secondary enrollment**.
- 3. **Economic Empowerment of Women:**
  - **Women-led MSMEs:** 2.3 crore businesses now led by women.
  - **PM Mudra Yojana:** Women availed **70% of total loans**.
  - **Jan Dhan Yojana:** Over **30 crore women** gained access to banking.
  - Initiatives like **Lakhpati Didi** enabled **1 crore women** to earn ₹1 lakh+ annually.
- 4. **Inspiring Campaigns and Social Awareness:**
  - Campaigns like **Selfie with Daughter** and **National Girl Child Day** mobilized societal participation.
  - **Panchayati Raj institutions** and grassroots organizations combated gender stereotypes and celebrated the birth of girls.
- 5. **Growth in Sukanya Samriddhi Yojana (SSY):** Families increasingly adopted SSY, prioritizing **education** and **financial security** for girls.

#### Challenges:

1. **Deep-Rooted Patriarchy:** Societal norms favoring **male children** persist, hampering efforts for gender equality.
2. **Implementation Gaps:** Uneven execution of BBBP across districts highlights governance weaknesses.
3. **Resource Allocation Issues:** Excessive focus on **awareness campaigns** led to limited allocation for **education, healthcare, and welfare schemes**.

#### Recent Developments:

1. **Mission Vatsalya Portal:** Focuses on **child welfare** and **protection** initiatives.
2. **Mission Shakti Portal:** Aims to strengthen **women's safety** and **empowerment**.

#### Road Ahead:

1. **Strengthening Grassroots Programs:** Expand **community-driven initiatives** to address regional disparities in gender equality.
2. **Enhancing Education Infrastructure:** Improve facilities for **secondary and higher education**, with a focus on **scholarships** for girls.
3. **Addressing Violence Against Women:** Integrate BBBP with schemes tackling **domestic violence, sexual harassment, and human trafficking**.
4. **Holistic Resource Allocation:** Balance funding between **awareness campaigns, education, and healthcare** to ensure long-term impact.
5. **Innovative Financial Tools:** Enhance SSY by integrating it with **digital platforms** for easier access, transparency, and tracking.

#### Conclusion:

The **10th anniversary** of BBBP and SSY celebrates a decade of transformative change in empowering girls and women across India. While achievements like improved CSR, economic empowerment, and educational access highlight progress, addressing persistent **patriarchy** and **resource gaps** will be crucial. Strengthening grassroots efforts, improving education, and leveraging financial tools can pave the way for a more equitable and inclusive future.

### Prospects for Children in 2025: Building Resilient Systems for Children's Futures

**Context:** The **UNICEF report**, *Prospects for Children 2025: Building Resilient Systems for Children's Futures*, highlights an era of escalating crises adversely impacting children. It underscores the urgent need for global action to protect children's rights, ensure their welfare, and secure their futures.



#### Key Highlights of the Report:

##### 1. Children in Conflict Zones:

- **473 million children** (1 in 6 globally) now reside in conflict-affected areas.
- The proportion of children living in conflict zones surged from **10% (1990s)** to **19% today**, marking the highest global conflict levels since World War II.

##### 2. Debt Crisis and Children:

- Approximately **400 million children** live in countries under severe debt distress, risking further degradation of their basic rights.
- Without fiscal reforms, this figure is expected to grow.

##### 3. Climate Crisis:

- Only **2.4%** of multilateral climate finance is **child-responsive**, despite children being disproportionately affected by climate disasters.
- Issues such as food insecurity, displacement, and health impacts from extreme weather events worsen vulnerabilities.

##### 4. Digital Inequality:

- Internet access for youth is nearly universal in high-income countries but stands at **53% in Africa**.
- **Adolescent girls** and children with disabilities face severe exclusion, with **90% of young women in low-income countries** offline.

#### Policy Recommendations:

- National Policies and Planning:** Governments should integrate **children's needs and vulnerabilities** into **Nationally Determined Contributions (NDCs)** to address climate change.
- Climate Financing:** Redirect climate funds to be more **child-focused**, addressing **loss and damage** affecting children.
- Business Regulation:**
  - Incorporate **child-specific risks** into **Environmental, Social, and Corporate Governance (ESG)** frameworks.
  - Legal frameworks should prioritize **intergenerational equity** and the right to a **sustainable future** for children.
- Technology Access:** Invest in closing the **digital divide**, particularly for children in rural areas, girls, and children with disabilities.

#### Steps Taken by India for Children:

##### 1. Legal Frameworks:

- **Juvenile Justice (Care and Protection of Children) Act, 2015:** Focuses on protecting children from exploitation and conflict.
- **POCSO Act, 2012:** Provides safeguards against sexual abuse and exploitation.

2. **Rehabilitation Initiatives: Operation Smile & Operation Muskaan:** Rescue and rehabilitate missing and vulnerable children.
3. **Financial Support: PM CARES for Children:** Assists orphans of the COVID-19 pandemic with education, healthcare, and living support.
4. **Education and Empowerment:**
  - **Right to Education Act, 2009:** Ensures free and compulsory education for children aged 6–14.
  - **Beti Bachao Beti Padhao (BBBP):** Promotes education and empowerment for adolescent girls.
5. **Digital Inclusion: Digital India Initiative:** Improves internet connectivity to reduce the digital divide, especially in rural areas.

### Way Ahead:

The future of children in 2025 depends on robust, resilient systems that protect their rights and address systemic vulnerabilities.

### Key Focus Areas:

1. **Investment in Children:** Prioritize **education, healthcare, and digital inclusion** to create equitable opportunities for all children.
2. **Climate Action:** Strengthen **child-focused climate financing** and involve children in shaping sustainable policies.
3. **Conflict Mitigation:** Focus on **peace-building efforts** to protect children in conflict zones.
4. **Digital Equity:** Bridge the **digital divide** to ensure access to education and opportunities for all children.

By safeguarding children's futures, nations not only uphold human rights but also ensure a sustainable, inclusive, and prosperous world.

## Appointment of Retired High Court Judges on an Ad Hoc Basis to Tackle Case Backlog

**Context:** To address the growing backlog of cases in High Courts, the **Supreme Court** has recently proposed appointing **retired High Court judges** on an **ad hoc basis**, citing the need to revisit its 2021 decision, which restricted such appointments to specific circumstances.



### Constitutional Provisions and Legal Framework:

#### Article 224A of the Constitution:

1. **Provisions:**
  - Enables the **Chief Justice of a High Court** to appoint retired judges to act as ad hoc judges.
  - Requires the **President's consent** for such appointments.
2. **Key Features:**
  - Retired judges have **full jurisdiction, powers, and privileges** equivalent to sitting judges.
  - They are, however, not considered **permanent judges** of the court.
3. **Appointment Process:**
  - Governed by the **1998 Memorandum of Procedure (MOP):**
    - The retired judge's consent is obtained.





- The Chief Justice sends recommendations to the **state's Chief Minister**, who forwards them to the **Union Law Minister**.
- The **Chief Justice of India (CJI)** is consulted, whose advice is submitted to the **Prime Minister** for Presidential approval.

### Supreme Court Guidelines and Criteria for Appointment

#### 2021 Lok Prahari Case:

1. The Supreme Court clarified the detailed process for invoking **Article 224A**, emphasizing its use in exceptional situations.
2. **Guidelines for Appointments:**
  - The recommendation must go through the **Supreme Court Collegium**, comprising the **CJI** and two senior-most judges.
  - Ad hoc judges are to be appointed when **less than 20% of vacancies** in the High Court have been filled.

#### Trigger Points for Appointments:

1. Ad hoc appointments may be initiated when:
  - High Court vacancies **exceed 20%** of sanctioned strength (excluding pending proposals).
  - More than **10% of pending cases** are over **5 years old**.
  - **Regular appointments** are delayed or insufficient to tackle the backlog.

#### Panel of Retired Judges:

1. Each High Court Chief Justice should maintain a **panel of retired or soon-to-retire judges** for ad hoc appointments.
2. Appointments are recommended for a term of **2-3 years**, with **2-5 ad hoc judges** per High Court.

#### Challenges Addressed by Ad Hoc Judges:

1. **Case Backlog:**
  - India's High Courts are burdened by **over 4 million pending cases**.
  - Around **40% of judge positions** remain vacant in several High Courts.
2. **Efficiency:**
  - Experienced retired judges can swiftly adjudicate long-pending matters, especially **criminal cases**.
3. **Judicial Accessibility:**
  - Ad hoc appointments can ensure timely justice delivery in under-resourced courts.

#### Historical Instances of Ad Hoc Appointments:

Despite the provision's existence, Article 224A has been invoked only three times in India's history:

1. **Justice Suraj Bhan (1972):** Appointed to the **Madhya Pradesh High Court** to hear election petitions.
2. **Justice P. Venugopal (1982-1983):** Appointed to the **Madras High Court**, with his term renewed.
3. **Justice O.P. Srivastava (2007):** Appointed to the **Allahabad High Court** to hear the **Ayodhya title suits**.

Since the **2021 Lok Prahari case**, there have been **no recorded ad hoc appointments** under Article 224A.

#### Way Forward:

##### Revisiting the 2021 Decision:

The Supreme Court's proposal to re-evaluate the **2021 ruling** may relax the restrictions on ad hoc appointments, making Article 224A more accessible.

##### Enhancing Regular Appointments:

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Ad hoc judges should supplement—not replace—efforts to fill **regular judicial vacancies**.

### Periodic Reviews:

1. Regular reviews of pending cases should ensure the judicious use of ad hoc appointments.
2. Transparent reporting mechanisms can track the impact of ad hoc judges on case disposal rates.

### Legislative and Policy Support:

1. Streamlining the **MOP process** can ensure timely ad hoc appointments.
2. Additional incentives, such as **honorariums** or extended tenures, can attract experienced retired judges.

### Conclusion:

The appointment of ad hoc High Court judges under **Article 224A** offers a pragmatic solution to India's mounting judicial backlog. While the provision has historically been underutilized, revisiting the framework and enabling its efficient application can strengthen the judiciary and ensure timely justice for all.

## RG Kar Rape Case: Not a Rarest of Rare Case

**Context:** Sanjoy Roy, convicted for **raping and murdering a doctor** at **RG Kar Medical College** in **Kolkata**, was sentenced to **life imprisonment** by a **sessions court**.

Despite strong arguments for the **death penalty** from the **CBI** and public outcry, the court followed the Supreme Court's principle of applying the death penalty only in "**rarest of rare**" cases, as established in the **Bachan Singh v. State of Punjab (1980)** judgment.



### Understanding the "Rarest of Rare" Doctrine:

#### Bachan Singh Case (1980):

- The Supreme Court in **Bachan Singh** upheld the death penalty but restricted its imposition to "**rarest of rare**" cases where the offender is beyond the possibility of reform.
- It did not define an exact standard for **rarest of rare** but listed **aggravating** and **mitigating circumstances** to guide decisions.

### Aggravating and Mitigating Circumstances in Death Penalty:

1. **Aggravating Circumstances (Favoring Death Penalty):**
  - **Premeditated and Brutal Acts:** Murder that is pre-planned, violent, and shows extreme brutality.
  - **Exceptional Depravity:** Crimes that display extraordinary cruelty.
  - **Targeting Public Servants:** Killing of law enforcement officers or public servants.
2. **Mitigating Circumstances (Discouraging Death Penalty):**
  - **Mental or Emotional Disturbance:** Offender acted under severe stress or disturbance.
  - **Age of the Accused:** Very young or elderly offenders may not be sentenced to death.
  - **Possibility of Reform:** Potential for the offender's rehabilitation and reintegration into society.
  - **Mental Impairment:** Offender unable to understand the nature of their crime due to mental illness.

### Evolution of Aggravating and Mitigating Factors Post-Bachan Singh:

1. **Age of the Accused:**
  - **Young Age as a Mitigating Factor:** In cases like **Ramnaresh v. State of Chhattisgarh (2012)**, young age (under 30) was seen as a factor indicating the possibility of reform.



- **Inconsistent Application:** The Law Commission's 262nd Report (2015) highlighted inconsistencies in considering age as a mitigating factor in death penalty cases.
  - In **Sanjoy Roy's case**, he is **35 years old**, which may weigh against age being a mitigating factor.
2. **Nature of the Offense:**
- The **Machhi Singh v. State of Punjab (1983)** case established that the death penalty can be imposed if the crime is so shocking that it **stirs society's collective conscience**.
  - However, this approach primarily considers the nature of the crime and may not fully evaluate the offender's **potential for reform**.
3. **Possibility of Reform:**
- The **Bachan Singh Principle** stresses that death sentences should only be handed out when the state can prove **irredeemable criminality**.
  - The **Santosh Bariyar v. State of Maharashtra (2009)** ruling emphasized that the evidence must be **clear and convincing** to prove that reform is not possible.

#### Stage of Trial: Impact on Aggravating and Mitigating Circumstances:

1. **Separate Sentencing Trial:**
- In **Bachan Singh**, the SC ruled that a **separate trial** after conviction is necessary to present arguments on whether the death penalty should be imposed.
  - The **Dattaraya v. State of Maharashtra (2020)** case showed that if this separate hearing does not provide a **real, effective, and meaningful hearing**, the death penalty can be commuted to life imprisonment.
2. **Issues with Same-Day Sentencing:**
- The SC highlighted the lack of fairness in **same-day sentencing**, where aggravating and mitigating circumstances are considered together without allowing a proper defense for the convict.
  - The **2022 suo motu proceedings** questioned whether **same-day sentencing** meets the required standard for a **meaningful hearing**, suggesting the need for uniform guidelines.

#### Challenges in Death Penalty Sentencing:

1. **Imbalance Between Aggravating and Mitigating Factors:**
- Aggravating circumstances are part of the **case record**, making them readily available to judges, whereas **mitigating factors** are usually presented **only after conviction**, creating a potential imbalance.
2. **Judicial Concerns:**
- The SC raised concerns about the **subjective** application of the "rarest of rare" doctrine and recommended the creation of **uniform guidelines** for evaluating **mitigating circumstances** in death penalty cases.

#### Key Observations:

- **Evolving Legal Framework:** Over time, courts have refined the factors that influence death penalty decisions, aiming for a more **objective** and **consistent** approach.
- **The Role of Age, Mental Health, and the Nature of the Crime:** Age and mental health are critical considerations in death penalty cases. These factors must be weighed carefully, as they affect the offender's likelihood of reform.
- **Need for Uniform Guidelines:** The **Supreme Court** is pushing for uniform guidelines to ensure fairness and consistency in death penalty hearings, particularly for assessing mitigating circumstances.

#### Conclusion:

The **RG Kar rape case** reflects the complexities surrounding the **death penalty** and the "**rarest of rare**" doctrine. Despite public demand for the death penalty, the court adhered to the principle that the death sentence should only apply when there is **no possibility of reform**. This decision highlights the need for a **balanced approach** in sentencing,

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considering both **aggravating and mitigating factors** to ensure **fairness** and **justice** in capital punishment cases.

### Electoral Trusts Surge After Ban on Electoral Bonds

**Context:** Following the **Supreme Court's landmark ruling** in **February 2024**, which **scrapped the electoral bonds scheme**, India has witnessed a significant surge in **donations to political parties through electoral trusts**. This shift highlights the growing preference for **transparent political funding**, offering fresh insights into the evolving landscape of electoral donations.



#### What Exactly Are Electoral Trusts?

**Electoral trusts** are **non-profit entities** designed to promote **transparency** in the political funding process in India. These trusts collect **voluntary contributions** from **individuals** or **companies** and then distribute the funds to **registered political parties**.

- Eligible Companies to Establish Electoral Trusts:** Any **company** registered under **Section 25 of the Companies Act, 1956** can apply for approval to establish an electoral trust.
- Creation of Electoral Trusts:**
  - The concept was introduced under **Section 13B of the Income Tax Act, 1961**, offering **tax benefits** to donors.
  - The **Election Commission of India (ECI)** ensures that these trusts follow the guidelines laid out in the **Electoral Trusts Scheme, 2013**.
- Who Can Contribute:** **Indian citizens** and **domestic companies** are allowed to contribute to electoral trusts, with the obligation to disclose both their **identity** and the **amount donated**.
- Who is Excluded?:** **Foreign entities**, including **foreign companies or individuals**, **government companies**, and entities prohibited under the **Representation of the People Act, 1951**, cannot donate.

#### The Key Benefits of Electoral Trusts Over Electoral Bonds:

##### 1. Transparency in Political Donations:

- Electoral trusts** are legally required to **disclose donor names** and the **amounts donated** to the **Election Commission of India (ECI)**.
- In stark contrast, **electoral bonds** allowed for **anonymous donations**, making it challenging to trace the **source of funds** and raising concerns about the **lack of transparency**.

##### 2. Greater Accountability for Political Parties:

- Electoral trusts ensure that **political parties disclose** the funds they receive, fostering a transparent system where the public is informed about the **contributions received** by each party.
- In contrast, **electoral bonds** do not require such **disclosures**, which significantly limits **accountability**.

##### 3. Robust Regulatory Oversight:

- Electoral trusts** are governed by the **Electoral Trusts Scheme, 2013**, and their activities are **closely monitored** by the **Election Commission of India**.
- Electoral bonds**, however, are **managed by banks**, with minimal **regulatory scrutiny**, making them susceptible to concerns over **oversight and transparency**.

##### 4. Minimizing Foreign Influence:

- Electoral trusts** explicitly prohibit **foreign donations**, helping to reduce the risk of **foreign interference** in India's political process.





- Meanwhile, **electoral bonds** have **no explicit restrictions** on **foreign-controlled entities** registered in India, raising concerns about **foreign influence** on political funding.

### The Surge in Donations via Electoral Trusts:

Since the **scrapping of electoral bonds** by the Supreme Court in **February 2024**, **corporate political donations** have seen a dramatic shift towards **electoral trusts**. The **Electoral Trust**—which has been the largest contributor—has witnessed a sharp increase in donations, highlighting the growing preference for a **more transparent** system of political funding.

### Transparency: Electoral Trusts vs. Electoral Bonds:

- **Electoral Trusts** stand out by being **transparent**—they are legally required to disclose **donor names** and the **amounts** distributed to political parties. However, they do not reveal **how much individual corporations contribute** to specific parties.
- On the other hand, **electoral bonds** allow for **anonymous donations**, making it nearly impossible to trace **who is funding whom**, which raised concerns about the integrity of the system.

### Conclusion: A Step Towards Cleaner Political Funding

The recent surge in donations through **electoral trusts** marks a significant shift in India's political funding landscape. While **electoral trusts** offer better **transparency** and **accountability**, questions still remain about the **exact allocation** of funds to political parties. However, the **ban on electoral bonds** and the rise of electoral trusts is a positive move towards **cleaner** and **more transparent political financing**, ensuring that corporate donations are **more traceable** and **less prone to undue influence**.

## Abetment of Suicide in India: Legal Framework, Punishments, and Judicial Guidelines

**Context:** In recent legal developments, the **Supreme Court of India** has highlighted the importance of **sensitizing investigating agencies** and **courts** when handling cases under **Section 306 of the Indian Penal Code (IPC)**, which pertains to **abetment of suicide**. The Court emphasized that while the **law** should be applied in genuine cases, it should not be misused in an attempt to appease grieving families, urging careful adherence to the **legal standards** laid out.



### Understanding Abetment of Suicide Under Indian Law:

#### What is Abetment?

According to **Section 107 of the Indian Penal Code (IPC)** (also equivalent to Section 45 of the **Bharatiya Nyaya Sanhita (BNS), 2023**), **abetment** involves the following:

- **Instigating** someone to take a particular action.
- **Conspiring** with others to carry out a particular act.
- **Intentionally aiding** an act either through direct action or **inaction**.

To secure a conviction for **abetment of suicide**, it must be proven that the accused **directly instigated** or **aided** the deceased in taking their own life.

### Punishment for Abetment of Suicide:

Under **Section 306 of the IPC** (also reflected in **Section 108 of the BNS**), the punishment for abetment of suicide is:

- **Imprisonment:** Up to **10 years**.
- **Fine:** The imposition of a **monetary penalty** in addition to the sentence.



This is a **cognizable, non-bailable, and non-compoundable** offense, meaning the accused can be arrested without a warrant, and the case cannot be settled through a private agreement.

### Conviction Rate for Abetment of Suicide:

According to the **National Crime Records Bureau (NCRB) 2022**:

- **Conviction rate for Section 306 IPC: 17.5%.**
- **Conviction rate for all IPC crimes: 69.8%.**
- **Conviction rate for cognizable offenses (including abetment of suicide): 54.2%.**

These statistics reveal that the **conviction rate for abetment of suicide** is significantly lower than for other criminal offenses, indicating challenges in securing a conviction in such cases.

### Key Legal Standards for Abetment of Suicide:

#### Supreme Court's Judgment on Workplace Suicide Cases

In **October 2024**, the **Supreme Court** quashed an **abetment of suicide** case involving a salesperson who allegedly took their life due to workplace harassment regarding a **voluntary retirement scheme**. The Court's observations include:

- **Higher standard of proof** is required in workplace-related suicide cases, especially in official relationships (e.g., **employer-employee**).
- Evidence must clearly demonstrate that the accused **intended** to cause the suicide.
- The prosecution must show that the accused's actions led to **direct and alarming incitement** to suicide.

### Important Supreme Court Precedents on Abetment of Suicide:

1. **M Mohan v. The State (2011):**
  - In this case, the Court clarified that **proof of active or direct involvement** by the accused is essential. The accused's actions must have left the deceased with no choice but to **commit suicide**.
2. **Ude Singh v. State of Haryana (2019):**
  - The Court held that **indirect incitement** can be considered as abetment if the continuous actions of the accused **create a situation** where the deceased feels no other option than to take their life.

### Key Takeaways: Legal Guidelines for Abetment of Suicide Cases

1. **Need for Evidence:** Proving **direct incitement or encouragement** is crucial in abetment of suicide cases. The prosecution must present **solid evidence** to show that the accused played a direct role in pushing the deceased towards suicide.
2. **Avoiding Misuse of the Law:** The **Supreme Court** has stressed that cases under **Section 306 IPC** should not be used to **appease grieving families**, especially in the absence of clear evidence that the accused directly caused the suicide.
3. **Cautious Approach in Workplace Cases:** In cases of **workplace harassment** or other official relationships, a **higher bar of proof** is required, and courts must be cautious in not allowing **baseless prosecutions**.

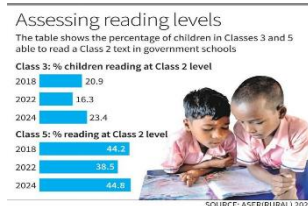
### Conclusion: A Delicate Balance in Suicide Cases

The legal provisions concerning **abetment of suicide** under **Section 306 IPC** strike a delicate balance between ensuring justice for victims and preventing **misuse of the law**. As **court precedents** highlight, it is imperative to **carefully assess the evidence** and avoid wrongful prosecutions, ensuring that genuine cases are properly adjudicated while protecting individuals from unfounded legal actions.

## Annual Status of Education Report (ASER) 2024

**Context:** The Annual Status of Education Report (ASER) is a nationwide, citizen-led household survey that provides a snapshot of schooling and learning levels in rural India. The survey assesses both enrolled and out-of-school children, making it a comprehensive tool for understanding India's education landscape.

- **Meaning of ASER:** The term 'aser' means 'impact' in Hindustani.
- **Coverage:** Tracks children aged 3-16 for enrollment status and tests 5-16-year-olds for basic reading and arithmetic skills.
- **Conducted by:** ASER Centre in collaboration with the Pratham network.
- **Survey Frequency:**
  - **2005-2014:** Conducted annually.
  - **2016 onwards:** Shifted to an alternate-year model.
  - **Gap Years:** Focused on specific age groups or new aspects of learning.



### Previous ASER Surveys

- **ASER 2017:** Focused on youth (14-18 years), assessing their activities, abilities, and aspirations.
- **ASER 2019:** Studied early childhood learning (4-8 years), focusing on cognitive and numeracy skills.
- **ASER 2023:** Assessed digital literacy among 14-18-year-olds.
- **ASER 2024:** Returned to the 'basic' survey format, covering almost all rural districts in India.

### Key Findings of ASER 2024

#### 1. Learning Improvements

- **Class 3 Students (Government Schools):** The proportion of students who could read a Class 2-level text rose to 23.4% in 2024, up from 16.3% in 2022.
- **Arithmetic Skills:**
  - **Class 3:** Two-thirds of students struggled with subtraction.
  - **Class 5:** Only 30.7% could solve division problems.
  - **Class 8:** 45.8% showed mastery in basic arithmetic.

#### 2. Regional Variations

- **States with Notable Gains:** Uttar Pradesh, Bihar, Haryana, and Odisha showed significant improvements in reading levels.
- **Uttar Pradesh** had the largest rise, with a 15-percentage-point improvement in reading skills.

#### 3. Government vs Private Schools

- **Government schools** have seen a stronger learning recovery post-pandemic.
- **Private schools** continue to lag behind their pre-pandemic performance.
- Despite progress, 30% of children still struggle with reading a Class 2-level text.

#### 4. School Enrolment Trends

- **Overall School Enrolment (Ages 6-14):** 98.1%, nearly back to pre-pandemic levels.
- **Government School Enrolment:**
  - **2022:** 72.9%



- 2024: 66.8% (decline post-pandemic recovery)

- Underage Children in Class 1: Dropped to 16.7%, the lowest ever recorded.

## 5. Digital Literacy and Smartphone Use

- Smartphone Ownership (Rural Households): 84% in 2024, a significant increase.
- Teenagers Using Smartphones for Education: 57%, while 76% use them for social media.
- Gender Gap: Boys report higher smartphone ownership and usage than girls.

## Driving Factors Behind Learning Trends

- NEP 2020 and Nipun Bharat Mission: Played a crucial role in enhancing foundational literacy and numeracy.
- Digital Tools: Smartphones and online resources have helped continue education post-pandemic.

## Challenges and Recommendations

1. **Persistent Learning Gaps:** While improvements are evident, significant literacy and numeracy gaps remain, particularly in government schools.

2. **Unequal Access to Educational Resources:** Regional disparities and limited access to digital tools hinder educational progress.

## 3. Need for Stronger Digital Literacy Initiatives

- Smartphone usage for education is increasing, but a gender gap in digital access persists.
- More structured digital literacy programs are needed to maximize learning outcomes.

4. **Enhancing School Readiness Programs:** Programs that focus on early childhood learning can help bridge foundational learning gaps.

## Conclusion

The ASER 2024 report highlights remarkable improvements in learning outcomes but also underscores the need for sustained efforts to address literacy gaps, digital access inequalities, and enrollment shifts. NEP 2020 and digital education tools have played a key role in driving progress, yet more targeted interventions are required to ensure equitable and effective learning for all children in rural India.

## Classifying Denotified Tribes: A Turning Point for Reservation and Welfare Policies

**Context:** In a historic development, the Anthropological Survey of India (AnSI), in collaboration with Tribal Research Institutes (TRIs), has successfully categorized 268 denotified, semi-nomadic, and nomadic tribes across India for the first time. Out of these, 179 communities have been recommended for inclusion in the Scheduled Castes (SC), Scheduled Tribes (ST), and Other Backward Classes (OBC) lists. This monumental effort addresses long-standing classification gaps, ensuring these tribes gain rightful access to crucial benefits.



## Historical Background: Why Classification is Critical

Denotified tribes were once labeled as "criminal" under the Criminal Tribes Act of 1924, which was eventually repealed in 1949. However, subsequent efforts by various commissions such as the Kaka Kalelkar Commission (1955), the Mandal Commission (1980), and the Renke Commission (2008), among others, failed to provide a comprehensive classification. In 2017, the Idate Commission identified 1,200 tribes needing classification, with 267 communities still unclassified. This sparked the formation of a Special Committee under NITI Aayog in 2019, tasking AnSI and TRIs with the ethnographic study.

## Key Findings: A New Chapter for Denotified Tribes

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- **268 communities classified:** This marks the first **systematic documentation** of these tribes.
- **179 communities recommended for SC/ST/OBC inclusion:** Ensuring these tribes access **reservation benefits** like **education, employment, and social welfare**.
- **63 communities untraceable:** These tribes may have merged with others or migrated, complicating the identification process.
- **Political and legal implications:** The classification has sparked debates on **reservation policies** and the **special status** of these tribes.

#### Impact on Reservation and Welfare Policies:

The inclusion of **denotified tribes** in the SC, ST, and OBC categories will allow them to access critical **government welfare schemes**, including **education, job opportunities, and social security**. However, this initiative has sparked political discussions, with two major viewpoints emerging:

#### Support for Inclusion in SC/ST/OBC Lists:

- Grants access to **essential benefits** such as education, employment, and social welfare schemes.
- Provides **legal recognition** and identity to these historically marginalized communities.

#### Demand for a Separate Reservation Category:

- Some argue that these tribes should have their **own separate category**, similar to SCs and STs, to avoid **diluting reservation benefits** for other communities.
- Concerns over whether **merging these tribes** with existing categories could **diminish their entitlement** to benefits.

#### Challenges and Concerns:

- **Political Controversies:** Activists in states like **Uttar Pradesh, Haryana, Madhya Pradesh, and Gujarat** are questioning the validity of this classification, fearing it could disrupt existing reservation systems.
- **Delays in Implementation:** Despite several commissions advocating for the classification, **government action has been slow**, delaying the much-needed welfare benefits for these communities.
- **Historical Misclassification:** Previous census errors in categorizing tribes as castes have led to **confusion** over their **legal identity and status**.

#### The Road Ahead: Looking at Future Prospects:

The **AnSI** and **TRIs** have submitted their **final report** to the Special Committee under **NITI Aayog**, which is now reviewing the recommendations. If these recommendations are approved:

- **State governments** will find it easier to include these tribes in **reservation lists**.
- New **welfare policies** could be introduced to address the **socio-economic challenges** faced by these communities.
- The **debate** on creating a **separate category** for **denotified tribes** may gain momentum, further influencing future policies.

#### Conclusion: A Critical Step Toward Social Justice

The classification of **denotified, semi-nomadic, and nomadic tribes** is a significant milestone in addressing the **historical injustices** they have faced. While the implementation of this classification is complex, the government's final decision will play a pivotal role in reshaping India's **reservation policies** and ensuring these marginalized communities finally receive the **support and recognition** they deserve.



## Debate on the Governor's Role in University Governance

**Context:** The position of **Governor as Chancellor** of state universities has sparked significant **debate** and **controversy** in recent years. This role, inherited from **British colonial rule**, is not enshrined in the **Indian Constitution**, yet continues to shape the governance of **higher education** in India.

### The Governor's Role in Universities: An Inherited Legacy

The office of the **Governor as Chancellor** of universities was initially designed to **restrict university autonomy**. During the colonial era, the **Governor** held power over universities, particularly in the areas of appointing **Vice-Chancellors** and approving **decisions** of the institution, giving them significant control over educational matters.

### Key Issues and Concerns with Governor's Role:

#### Politicization and Loss of Neutrality:

The role of the Governor in universities became more **politicized** after **1967**, as Governors increasingly acted as agents of the **Central Government**. This shift led to a **compromise in the neutrality** of the office, with many Governors being former **politicians**. Consequently, their involvement in university affairs was often seen as **biased**, undermining the **independence** of academic institutions.

#### The Dual Role of Governors:

Governors possess powers under **Article 163** (with **ministerial advice**) and independently as **Chancellor**. This dual authority gives them the power to bypass **state governments**, particularly in states controlled by opposition parties, creating tensions and administrative gridlocks.

#### Governor vs. President: A Contrast in Governance

Unlike the **President of India**, who consults with the **Ministry of Education** and **Parliament**, Governors often **act unilaterally**, bypassing state authorities. This stark difference raises questions about the **transparency** and **accountability** in the appointment of **Vice-Chancellors** and the oversight of **university activities**.

#### Challenges Faced by Governors in University Governance:

- **Lack of Academic Expertise:** Many Governors, by virtue of their political careers, lack the necessary **academic qualifications** to effectively lead universities.
- **Administrative Paralysis:** The **dual authority** model has created **bottlenecks** in decision-making processes, leading to delays and inefficiencies.
- **Undue Central Influence:** The Governor's role in universities has also been criticized for undermining the **federal** nature of the Indian state by increasing **Central government** influence in **state matters**.

#### Insights from Commissions: A Call for Reform:

Several **commissions** have critiqued the Governor's role, urging for changes to ensure greater autonomy for universities:

- **Rajamannar Commission**
- **Sarkaria Commission**
- **Venkatachaliah Commission**
- **Punchhi Commission**



These commissions have **recommended reforms** such as promoting **political neutrality**, **clearer roles** for the Governor, and granting universities **greater autonomy**. The **Punchhi Commission** specifically suggested that **Governors should avoid statutory roles** like Chancellor to protect the **dignity** of the office.

### Exploring Alternative Models for University Governance

There have been discussions around **alternative models** for governance that could ensure **autonomy** for universities and reduce the **political influence** of Governors:

1. **Ceremonial Governor as Chancellor:** In some states like **Gujarat, Karnataka, and Maharashtra**, the Governor's role as Chancellor is purely **ceremonial**, without any executive authority.
2. **Chief Minister as Chancellor:** States like **West Bengal and Punjab** have proposed a **Chief Minister-led governance** model, where the **Chief Minister** holds the **Chancellor** position, though it is still awaiting **Presidential assent**.
3. **State-Appointed Chancellor:** In **Telangana**, the state government has adopted a model where a **ceremonial Chancellor** is appointed from among **distinguished academics** or public figures, further distancing the position from political influence.
4. **Elected Chancellor:** In some global universities like **Oxford and Cambridge**, **elected chancellors** are chosen by the **university community**. This model enhances **institutional autonomy** and **transparency**.
5. **Chancellor Appointed by University Executive Council:** Similar to models in the **UK, Canada, and Australia**, a **university executive council** can appoint a Chancellor, ensuring that the **university's interests** take precedence over political or governmental influence.

### Conclusion and Way Forward: Reforms for a New Era of University Governance

Reforming the Governor's role in universities is crucial for upholding **academic freedom**, ensuring **accountability** to **elected state governments**, and allowing universities to function with **greater autonomy**.

While some states have already passed **reforms**, many others are still waiting for **Presidential assent**, demonstrating the need for a more **impartial** and **progressive approach** from the **Central Government**. It is vital to dismantle **colonial-era governance structures** and adopt more **modern, transparent** models that align with **global best practices** for **higher education governance**.

## SC Bans Manual Scavenging in Six Major Cities – A Historic Verdict

**Context:** The **Supreme Court of India** has issued a **landmark ruling**, prohibiting **manual scavenging and manual sewer cleaning** in six metropolitan cities. This decision comes in response to a **writ petition** aimed at eradicating this inhumane practice across the country.



### What is Manual Scavenging?

**Manual scavenging** refers to the **dangerous and degrading** practice of manually cleaning and disposing of **human excreta** from dry latrines, open drains, septic tanks, and sewers. This **hazardous occupation** disproportionately affects **marginalized communities**, especially **Dalits**.

### Current Status of Manual Scavenging in India

Despite being **legally banned**, **manual scavenging continues** due to **loopholes and poor enforcement**. **Alarming Statistics (2018-2023):**

- **443 deaths** reported due to manual scavenging (Ministry of Social Justice and Empowerment).
- **Delhi alone recorded 94 deaths** over the last 15 years, yet only **one conviction** was made.



- **Caste Disparity:**

- **97% of manual scavengers belong to Scheduled Castes (SCs):**
  - **42,594 from SCs**
  - **421 from Scheduled Tribes (STs)**
  - **431 from Other Backward Classes (OBCs)**

### Challenges and Issues:

#### Continued Existence Despite Ban:

- **Workers are often hired informally under contractual arrangements**, bypassing legal restrictions.
- **Lack of mechanization** forces workers to clean sewers manually, exposing them to **toxic gases** and fatal accidents.
- **Rehabilitation efforts under the 2013 Act** have been **poorly implemented**.
- **Deep-rooted caste discrimination** keeps Dalits trapped in this degrading occupation.

### Laws & Regulations Against Manual Scavenging:

#### Prohibition of Employment as Manual Scavengers and Their Rehabilitation Act, 2013

- **Bans manual scavenging** in all forms.
- **Criminalizes the employment** of manual scavengers.
- **Mandates mechanization** of sewer cleaning.

#### Supreme Court Interventions:

- **2014 (Safai Karamchari Andolan v. Union of India)** – SC ordered **10 lakh compensation** for the families of deceased manual scavengers.
- **2020** – SC directed **stricter implementation** of mechanized sewer cleaning.

#### Constitutional Provisions:

- **Article 17** – Abolishes untouchability.
- **Article 21** – Guarantees **right to life and dignity**.
- **Article 23** – Prohibits forced labor.
- **Article 42** – Ensures **humane working conditions**.

### Government Initiatives to Eliminate Manual Scavenging:

#### NAMASTE Scheme (2023):

- Focuses on **mechanizing sewer cleaning**.
- Provides **skill training** and **alternative employment opportunities**.

#### Swachh Bharat Abhiyan:

- Aims to **replace dry latrines** with **modern sanitation facilities**.
- Promotes **mechanized cleaning equipment** to eliminate human involvement.
- **Self-Employment Scheme for Rehabilitation of Manual Scavengers (SRMS)**
- Provides **40,000 financial aid** to former manual scavengers.
- Offers **skill training** for alternative livelihood options.

### Way Forward: Eradicating Manual Scavenging for Good:

✓ **Strict enforcement** of the **2013 Act** with **heavy penalties** for violators.





To the Point

# Monthly Current Affairs

## January 2025



- ✓ Accelerate the adoption of mechanized cleaning methods using robots and advanced machines.
- ✓ Ensure full rehabilitation of manual scavengers through financial support and employment training.
- ✓ Raise awareness to eliminate the caste-based stigma attached to sanitation work.

This Supreme Court ruling marks a crucial step toward eradicating manual scavenging and ensuring dignity, safety, and justice for all workers.



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Freedom UPSC with **Dhananjay Gautam**

Page No

129

### Madhya Pradesh Begins Disposal of Toxic Waste from Union Carbide Site

**Context:** The **Madhya Pradesh government** has finally initiated the disposal of **337 tonnes of hazardous waste** from the **Union Carbide India Ltd. (UCIL)** site in **Bhopal**, marking a significant move towards environmental restoration. This comes almost **40 years after the tragic Bhopal Gas Disaster**, one of the world's worst industrial accidents.



#### Efforts for Environmental Cleanup:

For decades, there has been **mounting pressure** on authorities to implement a comprehensive cleanup of the **UCIL plant site**, which still harbors toxic residues. These residues have posed ongoing risks to both the **local ecosystem** and the **health of surrounding communities**.

- The **Madhya Pradesh High Court** had previously set a **four-week deadline** for the safe disposal of this hazardous waste.
- The waste is being transported to a **Treatment, Storage, and Disposal Facility (TSDF)** located in **Pithampur**, near **Indore**.
- The cleanup process is seen as a long-overdue measure to mitigate environmental damage and protect public health.

#### The Bhopal Gas Tragedy: A Grim Reminder:

On the night of **December 2, 1984**, the **Bhopal Gas Tragedy** shocked the world. A **leak of methyl isocyanate (MIC)** gas from the UCIL pesticide plant exposed thousands of people to a **deadly cloud of toxic fumes**.

#### Devastating Impact:

- **Over 15,000 deaths** were reported due to immediate and long-term effects, and thousands more suffered from **chronic illnesses**.
- MIC gas is **highly lethal**—at concentrations exceeding **21 ppm (parts per million)**, it can cause death within minutes of exposure.

#### Environmental Legacy:

- The toxic residues left behind have contaminated the **soil and water** in the surrounding area, creating an environmental hazard that has persisted for decades.

#### Additional Facts About the Disaster:

- The tragedy has often been referred to as the **Hiroshima of Chemical Industry**, highlighting the scale of devastation.
- **Union Carbide Corporation**, the parent company of UCIL, paid a settlement of **\$470 million** to the Indian government, but activists argue that this compensation was grossly inadequate.
- The site remains a **symbol of industrial negligence**, serving as a stark warning against the dangers of lax safety standards.

#### Significance of National Pollution Control Day:

Every year on **December 2**, **National Pollution Control Day** is observed in India to honor the victims of the tragedy and raise awareness about the importance of **environmental safety** and **industrial regulation**.

### Catastrophes of Rare Severity: Managing Severe Natural Disasters

**Context:** The **Union Government** has classified the **Wayanad landslide** as a disaster of “**severe nature**”, five months after the calamity claimed **254 lives** and left **128 missing**.

#### Understanding Severe Natural Disasters:

##### Definition:

Disasters of **severe nature** are catastrophic events causing widespread **loss of life**, destruction of **property**, and **environmental damage**. These can arise from **natural phenomena** such as **earthquakes**, **cyclones**, **landslides**, or even **human-induced accidents** like industrial disasters.



#### Implications of Declaring a Disaster as ‘Severe’

##### 1. National-Level Support:

- When a calamity is deemed of “**rare severity**”, the **Central Government** provides **additional resources** to assist the state in managing the disaster.

##### 2. Financial Assistance:

- Establishment of a **Calamity Relief Fund (CRF)** shared in a **3:1 ratio** between the **Centre and State**.
- If the CRF proves inadequate, extra funds are allocated from the **National Calamity Contingency Fund (NCCF)**, fully funded by the **Centre**.

##### 3. Loan Relief:

- Affected individuals may receive **loan repayment relief** or **new loans on concessional terms**.

#### Impacts of Severe Natural Disasters:

##### 1. Social Impact:

- Loss of Lives:** Widespread fatalities and **displacement** of people.
- Vulnerable Populations:** Increased challenges for **marginalized groups**, especially **women and children**.

##### 2. Economic Impact:

- Infrastructure Damage:** Devastation of **roads**, **bridges**, **power grids**, and other vital systems.
- Economic Losses:** Disruptions to **local businesses** and industries.

##### 3. Environmental Impact:

- Ecosystem Disruption:** Loss of **natural habitats** and **biodiversity**.
- Degradation:** Increased **soil erosion** and **deforestation** in affected areas.

#### Government Initiatives for Disaster Management:

##### 1. Legal Frameworks:

- Disaster Management Act, 2005:** Creation of the **National Disaster Management Authority (NDMA)**.
- Environment Protection Act, 1986:** Focused on addressing risks from **environmental degradation**.

##### 2. Early Warning Systems:

- Indian Tsunami Early Warning System:** Monitors potential **tsunami threats**.
- Doppler Radar Installations:** Tracks weather patterns to predict **cyclones** and heavy rains.

##### 3. Financial Mechanisms:

- State Disaster Response Fund (SDRF)** and **National Disaster Response Fund (NDRF)** for immediate relief and rehabilitation.



#### 4. Technological Integration:

- **Geographic Information System (GIS):** Helps in **disaster mapping** and risk analysis.
- **Remote Sensing:** Provides real-time data for better **planning and preparedness**.

#### Recommendations for Better Disaster Management:

##### 1. Resilient Infrastructure:

- Implement **zoning laws** and **land-use regulations** to restrict construction in **high-risk zones**.
- Develop **climate-resilient infrastructure** to withstand extreme events.

##### 2. International Collaboration:

- Share knowledge and **technological innovations** with other nations through platforms like the **Sendai Framework for Disaster Risk Reduction**.

##### 3. Climate Change Mitigation:

- Promote **sustainable practices** to address the root causes of **environmental hazards**.
- Integrate **green technologies** to minimize carbon footprints.

##### 4. Community Involvement:

- Train local communities in **disaster preparedness** and first-response actions.
- Strengthen the role of **NGOs** in disaster relief and rehabilitation efforts.

#### Additional Insights:

##### Leveraging AI and Big Data:

- Use of **AI algorithms** to predict disasters and **big data analytics** to optimize resource allocation.

##### Public Awareness Campaigns:

- Educate citizens about disaster risks and **preparedness measures** through schools, media, and social platforms.

#### Conclusion: Building a Resilient Future

The **increasing frequency** and intensity of natural disasters demand a **comprehensive approach** to prevention, mitigation, and response. By leveraging **technology**, adopting **climate-resilient policies**, and ensuring **community participation**, India can effectively reduce the impacts of severe natural disasters while safeguarding its development trajectory. **Preparedness today is the key to resilience tomorrow.**

### The Vital Role of Elders in Wildlife Conservation

**Context:** Recent research highlights the devastating effects of **human-induced pressures** like **climate change**, **habitat destruction**, and **overexploitation** on older members of wildlife populations. The loss of these experienced individuals not only destabilizes their groups but also poses significant challenges to **biodiversity conservation**.

#### Key Contributions of Elder Animals:

##### Wisdom and Survival Skills:

- **Elder animals**, such as **elephant matriarchs** and **shark grandmothers**, possess a lifetime of knowledge.
- They guide their groups in **foraging**, **migration**, and navigating **harsh environmental conditions**.

##### Social Stabilizers:

- Older individuals often occupy dominant positions, ensuring **group cohesion** and **conflict resolution**.







- For instance:
  - **Elephants:** Matriarchs form defensive strategies against predators.
  - **Orcas:** Elder females lead pods to **food sources**, protect calves, and teach survival techniques.

#### Resilient Offspring:

- **Larger, older fish and reptiles** produce more **adaptable offspring**, enhancing the group's resilience to **environmental changes**.

#### Threats to Elder Wildlife:

##### Human Impacts:

- Factors like **habitat destruction**, **climate extremes**, and **hunting** accelerate the loss of older individuals.
- Example:
  - **Young elephants** without matriarchs show **heightened stress** and become more vulnerable to predators.

#### Disrupted Group Dynamics:

- The absence of elders hampers **social learning**, **migration patterns**, and **reproductive success**.
- **Younger animals** face survival challenges without experienced leaders.

#### Spotlight on Elephants:

##### Species Overview:

- **Asian Elephants:** Found in **South Asia** and **Southeast Asia**, including **India**, **Sri Lanka**, and **Thailand**.
- **African Elephants:** Native to **sub-Saharan Africa**, seen in **savannahs**, **forests**, and **deserts**.

##### Conservation Status:

- **Asian Elephants:** Listed as **Endangered** on the **IUCN Red List**.

##### Special Features:

- **Largest land mammals** with exceptional **intelligence** and **memory**.
- Form **matriarchal societies**, where herds are led by the **oldest female**.
- Play a key role as **ecosystem engineers**, aiding in **seed dispersal** and creating **water sources**.
- Use unique communication methods like **low-frequency rumbles** and **seismic signals**.

##### Conservation Efforts in India:

- **Project Elephant (1992):** Focused on elephant conservation and welfare.
- **Elephant Reserves:** Over **30 reserves**, including **Mysuru**, **Nilgiri**, and **Kameng**.
- **Wildlife Protection Act, 1972:** Elephants listed under **Schedule I**, providing maximum protection.

#### Spotlight on Orcas (Killer Whales):

##### Habitat and Distribution:

- Found in all oceans, from the **Arctic** and **Antarctic** to **tropical seas**.
- Prefer **colder coastal waters** but are highly adaptable.
- **Data Deficient (IUCN Red List):** Lack of global population data, though some groups, like **Southern Resident Orcas**, are **critically endangered**.

##### Unique Traits:

- **Apex predators** with no natural enemies.
- Live in **complex social pods** often led by females.



- Use **echolocation** for communication and hunting.
- Exhibit **menopause**, with elder females playing a **grandmother role**, focusing on calf care.

#### Global Hotspots:

- **Arctic and Antarctic Waters:** High concentrations near **Norway, Canada, and Antarctica**.
- **Pacific Northwest (USA):** Notably around **Puget Sound** and nearby areas.

#### Conclusion:

The **elders of wildlife populations** are invaluable, not only for the survival of their species but also for maintaining ecological balance. Safeguarding these individuals is critical to ensuring the **resilience** and **sustainability** of ecosystems. By addressing threats like habitat loss and poaching, we can preserve the knowledge and leadership they bring to their groups, securing a future for wildlife and biodiversity.

### Government Extends DAP Subsidy to Stabilize Fertilizer Prices

**Context:** To ensure the availability of **Di-Ammonium Phosphate (DAP)** at affordable rates for farmers, the Union Cabinet has approved the extension of a special subsidy beyond the **Nutrient-Based Subsidy (NBS)** framework, effective from January 1, 2025.

#### Key Highlights:

##### Why in News?

The Cabinet has extended the **One-Time Special Package on DAP**, ensuring its sustainable supply at stable prices amid rising import costs and currency fluctuations.

#### Key Decisions of the Union Cabinet:

- **Extended Subsidy:** A continuation of the **3,500 per tonne special subsidy** on DAP for another year, covering the period from **January 1, 2025, to December 31, 2025**.
- **Objective:** Shield farmers from price volatility caused by the **rupee's depreciation** and stabilize farmgate prices for fertilizers.

#### Understanding Fertilizer Price Dynamics:

##### Capped Retail Prices:

- The government has informally frozen the **Maximum Retail Price (MRP)** of non-urea fertilizers despite their deregulated status.
- **Current MRPs:**
  - **DAP:** 1,350 per 50-kg bag.
  - **Complex fertilizers:** 1,300–1,600 per bag, depending on composition.
- Government support: The subsidy on DAP now totals **21,911 per tonne**, in addition to the **3,500 special concession**.

##### Impact of Currency Depreciation:

- The weakening of the **rupee against the dollar** has significantly increased the cost of imported fertilizers.
  - **Current DAP import cost:** 54,160 per tonne (up from 52,960 three months ago).
  - **Final landed cost:** 65,000 per tonne after including customs, handling, and margins.

#### Challenges Facing the Fertilizer Industry:

##### Economic Viability:

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- Fertilizer companies face **unviable import economics** unless:
  - The government further increases subsidies.
  - Companies are allowed to revise MRPs upward.
- Even with the extended subsidy, companies estimate a **1,500 per tonne shortfall** due to currency depreciation.

#### Stock Levels:

- Current stocks of **DAP (9.2 lakh tonnes)** and **complex fertilizers (23.7 lakh tonnes)** are below previous year levels.
- Reduced imports could result in **supply challenges** for the **kharif season** (June-July 2025).

#### Government's Strategy to Address Challenges:

##### Import Compensation:

- On September 20, 2024, the government approved a **compensation mechanism** for DAP imports exceeding a benchmark price of **\$559.71 per tonne**.
- However, calculations were based on an exchange rate of **83.23 per dollar**, which has since fallen to **85.7**.

##### Fiscal Implications:

- The subsidy extension will cost the government an additional **6,475 crore**.
- Political considerations are minimal since no major agricultural states face elections soon, and the current DAP consumption season is over.

##### Future Outlook:

##### Immediate Priorities:

- Ensure **adequate fertilizer availability** for the upcoming **kharif season** by securing imports of finished products and raw materials.

##### Long-Term Focus:

- Striking a balance between **fiscal constraints**, industry viability, and farmer affordability will be essential to sustain the supply chain and price stability.

The government's proactive measures underscore its commitment to protecting farmers from global market fluctuations while supporting the fertilizer industry amidst rising costs and currency challenges. A fine-tuned approach will be critical to addressing these dynamic challenges effectively.

## India Submits Fourth Biennial Update Report to UNFCCC

Context: India has presented its **Fourth Biennial Update Report (BUR-4)** to the **United Nations Framework Convention on Climate Change (UNFCCC)**. This report outlines India's **Greenhouse Gas (GHG) inventory** and the proactive measures taken to mitigate emissions and combat climate change.

#### Key Highlights of the Report:

##### 1. GHG Emission Reduction:

- India achieved a **36% reduction in GDP emissions intensity** between 2005 and 2020, progressing towards its **45% reduction target by 2030**.

##### 2. Sectoral Contribution to Emissions:

- Energy:** 75.66%





- **Agriculture:** 13.72%
- **Industrial Processes:** 8.06%
- **Waste:** 2.56%

### 3. GHG Composition:

- **Carbon Dioxide (CO<sub>2</sub>):** 80.53%
- **Methane (CH<sub>4</sub>):** 13.32%
- **Nitrous Oxide (N<sub>2</sub>O):** 5.13%

### 4. Progress Towards NDCs:

- **Emission Intensity:** Reduced by 36% from 2005 to 2020.
- **Non-Fossil Fuel Capacity:** Reached **46.52%**, with renewable power capacity growing to **203.22 GW**.
- **Carbon Sequestration:** An additional **2.29 billion tonnes of CO<sub>2</sub>** absorbed through afforestation efforts from 2005 to 2021.

### 5. Net-Zero Ambition:

India remains committed to its goal of achieving **net-zero emissions by 2070** while advancing its climate commitments.

#### Challenges in Combating Climate Change

##### 1. Financial Needs:

- Enhanced **funding** is critical for scaling up **mitigation** and **adaptation** efforts.

##### 2. Technological Advancements:

- Access to **cutting-edge tools** for renewable energy, **carbon capture**, and efficiency enhancement is essential.

##### 3. Capacity Building:

- Strengthening **institutional frameworks** and enhancing **workforce skills** are imperative for implementing climate solutions.

#### Proactive Steps Taken by India:

##### 1. Expanding Renewable Energy:

- Targeting **500 GW of renewable energy capacity** by 2030 with a focus on **solar, wind**, and other clean energy sources.
- The **National Solar Mission** has significantly boosted solar power capacity nationwide.

##### 2. Promoting Energy Efficiency:

- Initiatives like:
  - **Perform, Achieve, and Trade (PAT) Scheme**
  - **UJALA Program** for energy-efficient appliances.

##### 3. Increasing Forest and Tree Cover:

- Forest and tree cover now stands at **25.17%** of India's total geographical area and is consistently increasing.

##### 4. Supporting Global Climate Initiatives:

- Leadership in global programs such as:
  - **International Solar Alliance (ISA)**
  - **Coalition for Disaster Resilient Infrastructure (CDRI)**

##### 6. National Climate Programs:

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- Initiatives like:
  - PM-Surya Ghar Muft Bijli Yojana
  - National Bio-Energy Programme
  - National E-Bus Programme

### 6. Lifestyle for Environment (LiFE):

- A movement to encourage **sustainable living practices**, aiming to minimize environmental impact through individual and collective action.

### Conclusion:

India's submission of BUR-4 to the UNFCCC underscores its commitment to **global climate action**. By making strides in renewable energy, afforestation, and energy efficiency, and aligning with **international climate initiatives**, India is setting an example in the fight against climate change. These efforts reflect a vision for a **sustainable and resilient future**.

## Revised Rules for GEAC Experts on Genetically Modified Crops

**Context:** The Union Ministry of Environment, Forest, and Climate Change has introduced new amendments to the rules governing the **selection of experts** for the **Genetic Engineering Appraisal Committee (GEAC)**. These changes aim to address transparency and reduce conflicts of interest in decisions related to **genetically modified (GM) crops**.



### Understanding Genetically Modified (GM) Crops:

**GM crops** are plants whose genetic material (DNA) has been altered using advanced **genetic engineering techniques** to introduce desirable traits.

### Key Features of GM Crops:

- **Enhanced Traits:** Includes resistance to pests, diseases, or environmental stress, improved nutritional value, or higher yields.
- **Precision Engineering:** Unlike traditional breeding, GM technology allows for targeted modification, often incorporating genes from unrelated species.

### Benefits of GM Crops:

1. **Higher Productivity:** Increased crop yields to address food security.
2. **Pest and Disease Resistance:** Reduces dependence on chemical pesticides.
3. **Herbicide Tolerance:** Easier and more efficient weed management.
4. **Nutritional Enhancement:** Crops fortified with essential nutrients, tackling malnutrition.
5. **Environmental Impact:** Decreased use of agrochemicals reduces pollution.

### Concerns and Challenges:

1. **Environmental Risks:** Potential harm to non-target organisms and biodiversity loss.
2. **Health Concerns:** Despite safety studies, public apprehension about long-term effects persists.
3. **Economic Control:** Patented GM seeds may increase farmers' dependence on corporations.
4. **Ethical and Labeling Issues:** Ethical debates about gene manipulation and lack of mandatory GM labeling.

### Regulatory Framework for GM Crops in India:

1. **Authority:**



- **Ministry of Environment, Forest, and Climate Change (MoEFCC)** oversees GMO activities under the **Environment (Protection) Act, 1986**.
- **Genetic Engineering Appraisal Committee (GEAC)** reviews and approves all GMO-related activities, including cultivation, import/export, and commercialization.

## 2. Role of GEAC:

- Statutory body under the Environment Act, 1986.
- Ensures safe deployment of GM technology.
- Evaluates potential risks and impacts of GMOs.

## 3. Additional Oversight:

- The **Food Safety and Standards Authority of India (FSSAI)** regulates GM food safety.
- Currently, **Bt cotton** is the only GM crop approved for cultivation in India

## Recent Amendments to GEAC Rules:

### Conflict of Interest Disclosure:

- Experts must declare any **direct or indirect associations** with matters under discussion.
- Experts are required to **recuse themselves** from decision-making if conflicts arise unless requested otherwise by the GEAC.

### Background Verification:

- Appointed members must submit details of their **professional affiliations** over the past decade to ensure impartiality.

### Supreme Court Directives:

- Following a **2023 Supreme Court order**, the government was instructed to develop a national policy on GM crops.
- The directive addressed concerns over conflicts of interest, especially allegations linking committee members to corporations like **Monsanto (Bayer CropScience)**.

### Context of GM Mustard:

- In 2022, the Centre granted **conditional approval** for **GM mustard**, sparking widespread debate.
- The Supreme Court delivered a split verdict on the issue, leaving the final decision pending.

### Significance of the Amendments:

#### 1. Transparency and Credibility:

- Ensures GEAC decisions are free from undue corporate influence.
- Enhances public trust in the regulatory process.

#### 2. Strengthened Oversight:

- Addresses concerns regarding **corporate affiliations** and their potential impact on policy decisions.
- Aligns regulatory processes with **international best practices**.

#### 3. Promotes Innovation and Safety:

- By ensuring unbiased decision-making, the amendments encourage the **ethical adoption of GM technology**.

### Additional Knowledge:

#### Global Perspective on GM Crops:

- **Widely Adopted:** Countries like the **USA, Brazil, and Argentina** are leading producers of GM crops.
- **Stringent Regulations:** In the **EU**, GM crops face strict approval processes, and labeling is mandatory.
- **Developing Nations:** Many are exploring GM technology to address food security challenges while balancing environmental concerns.

#### Future of GM Crops in India:

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- With increasing demand for **climate-resilient agriculture**, GM crops offer significant potential.
- Regulatory clarity and public awareness are crucial for the widespread acceptance and responsible use of GM technology.

By amending the GEAC rules, India takes a significant step toward fostering **transparent, ethical, and science-driven decision-making** in the field of **genetically modified crops**, paving the way for sustainable agricultural advancements.

### Chhattisgarh: Pioneering Green GDP by Linking Forest Ecosystems

**Context:** Chhattisgarh has set a national precedent by becoming the **first state in India** to incorporate **forest ecosystem services** into its **Green Gross Domestic Product (Green GDP)**. This innovative move underscores the state's commitment to sustainable development and the preservation of its rich natural heritage.



#### What is Green GDP?

Green GDP is an **economic metric** that integrates **environmental considerations** into traditional economic calculations. It evaluates a nation's economic performance by accounting for the **environmental costs** of economic activities and the **benefits derived from ecosystems**.

#### Key Features of Green GDP:

- **Deducts environmental costs** such as resource depletion and pollution from traditional GDP.
- **Includes the value** of ecosystem services like clean air, water purification, and biodiversity preservation.

#### Highlights of Chhattisgarh's Initiative:

1. **Valuing Ecosystem Services:**
  - Forests offer a wide range of **non-tangible benefits**, including **CO<sub>2</sub> absorption**, **oxygen production**, **water conservation**, and **biodiversity support**.
  - These services will now be quantified and integrated into the state's **Green GDP framework**.
2. **Economic and Cultural Integration:**
  - Recognizing forests' contributions beyond timber, such as their **cultural and spiritual significance**, particularly for tribal communities.
  - Promoting **eco-tourism** through jungle safaris, camping, and national park visits to boost **employment opportunities**.
3. **Scientific Assessment:**
  - Employing **scientists** to measure and value ecosystem services for accurate representation in economic metrics.

#### Benefits of Green GDP:

1. **Acknowledging Non-Tangible Benefits:**
  - Highlights forests' roles in **climate regulation**, **soil enrichment**, and **biodiversity preservation**, which traditional GDP often overlooks.
2. **Balancing Growth and Sustainability:**
  - Emphasizes the **trade-offs between economic development and environmental conservation**, encouraging sustainable resource management.
3. **Policy Formulation:**

- Aids in identifying **high-impact sectors** for targeted interventions, fostering policies that promote **environmental sustainability**.

#### 4. Global Alignment:

- Strengthens India's commitment to **global climate goals** like the **Paris Agreement** by integrating **ecosystem valuation** into economic strategies.

### Challenges in Implementing Green GDP:

#### 1. Valuation Complexity:

- Assigning monetary value to **non-market environmental benefits** like biodiversity remains a significant challenge.

#### 2. Data Gaps:

- A lack of reliable data on **environmental degradation** and natural resource usage hinders accurate calculations.

#### 3. Framework Adjustments:

- Transitioning to Green GDP demands **substantial changes** in accounting methods and policymaking processes.

### Extra Insights: Green GDP Globally

Several countries have started incorporating **environmental considerations** into their economic metrics:

- **China:** Pioneered a pilot Green GDP project to track environmental degradation.
- **Norway:** Uses a **natural capital accounting system** to measure ecosystem contributions.
- **UN's SEEA Framework:** The **System of Environmental-Economic Accounting (SEEA)** serves as a global standard for integrating environmental data with economic statistics.

Chhattisgarh's bold initiative is a crucial step toward **sustainable economic development**, aligning the state's growth with the principles of **environmental stewardship** and **climate resilience**. By embedding forests' true value into its Green GDP, the state paves the way for a greener and more inclusive future.

### Expansion of the Great Nicobar Project

**Context:** The **Union Shipping Ministry** has proposed a major expansion of the 72,000 crore **mega-infrastructure project** on **Great Nicobar Island**. The initiative aims to transform the island into a key global maritime and tourism hub, while raising critical concerns about ecological preservation and indigenous rights.



### The Great Nicobar Project: Vision and Scope:

#### Implementing Authority:

The project is spearheaded by the **Andaman and Nicobar Islands Integrated Development Corporation Ltd. (ANIIDCO)**, a quasi-government agency focused on sustainable resource exploitation and balanced development.

#### Key Features:

- **International Container Transshipment Terminal (ICTT):** Aims to establish Great Nicobar as a vital node in global maritime trade.
- **International Airport:** Boosts connectivity for trade and tourism.
- **Township Development:** Plans for modern urbanization on the island.
- **Power Generation:** A 450 MVA gas and solar-based power plant, promoting renewable energy use.
- **New Additions:**





- **International Cruise Terminal:** Aimed at high-end tourism and eco-tourism.
- **Shipbuilding and Shipbreaking Facility:** Proposed on a **100-acre seafront**, including an **export-import port**.

#### Significance of the Project:

##### 1. Economic Growth

- Positions Great Nicobar as a **global trade hub**, fostering regional economic development.
- Encourages investments in tourism and infrastructure.

##### 2. Strategic Importance

- Strengthens India's **maritime capabilities**.
- Reduces dependency on foreign ports for cargo transshipment, boosting **strategic autonomy**.

##### 3. Sustainability Initiatives

- The use of **gas and solar-based energy** aligns with India's commitment to **renewable energy** and reducing fossil fuel dependence.

#### Concerns Surrounding the Project:

##### 1. Ecological Impact

- **Biodiversity Loss:** The project threatens to destroy **33,000 acres of forest** and impact fragile ecosystems, including **coral reefs** and nesting grounds for endangered species.
- **Marine Ecosystem Threats:** Development could disrupt marine habitats vital to the island's ecological balance.

##### 2. Indigenous Displacement:

- **Impact on Tribes:** The project risks displacing indigenous communities like the **Shompen** and **Nicobarese**, jeopardizing their livelihoods and cultural heritage.

##### 3. Transparency Issues:

- Limited access to project details under the **RTI Act**, citing national sovereignty and security, raises concerns about lack of public consultation and accountability.

#### Geographical and Historical Insights:

##### Location and Features:

- The **Andaman and Nicobar Islands** lie **1,300 km southeast of the Indian mainland** in the **Bay of Bengal**.
- The archipelago consists of over **500 islands**, divided into two groups:
  - **Andaman Islands** in the north.
  - **Nicobar Islands** in the south, separated by the **Ten Degree Channel**.

##### Great Nicobar Island:

- **Largest and southernmost island** of the Nicobar group.
- Home to **Indira Point**, India's **southernmost tip**.
- Known for its **rich biodiversity** and **volcanic base**, with features like coral reefs and limestone formations.

##### Renamed Islands (2018):

- **Ross Island:** Renamed **Netaji Subhash Chandra Bose Dweep**.
- **Neil Island:** Renamed **Shaheed Dweep**.
- **Havelock Island:** Renamed **Swaraj Dweep**.

#### Concluding Remarks: A Path Forward

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The **Great Nicobar Project** presents a transformative vision for India's economic and strategic positioning. However, the potential risks to **ecological balance** and **indigenous rights** call for a **transparent, consultative, and sustainable approach**.

### Suggestions for Sustainable Development:

1. **Enhanced Public Consultation:** Engage local communities and stakeholders in decision-making.
2. **Ecological Preservation Measures:** Implement compensatory afforestation, coral transplantation, and marine conservation programs.
3. **Cultural Safeguards:** Protect the rights and heritage of indigenous communities through inclusive policies.
4. **Periodic Monitoring:** Establish an independent body to monitor the environmental and social impact of the project.

By integrating these measures, the project can achieve its goals while preserving the unique identity and natural wealth of **Great Nicobar Island**.

## Kerala Proposes Amendments to the Forest Act

**Context:** The **Kerala government** has introduced the **Kerala Forest (Amendment) Bill, 2024** to tackle **environmental challenges** and strengthen **forest management** in the state. While the Bill aims to prevent practices like waste dumping into rivers near forest areas, it has sparked debates due to certain contentious provisions.



### Key Highlights of the Amendment Bill:

#### 1. Expanded Powers for Forest Officials:

- **Arrest and Detention Without Warrant:**
  - Forest officers are empowered to **arrest or detain individuals suspected of forest-related offenses**, even outside forest boundaries.
  - This raises concerns about the potential **misuse of power**, especially since the definition of "forest officer" now includes **temporary staff**.

#### 2. Redefining Forest Officers:

- The Bill includes **beat forest officers, tribal watchers, and forest watchers**—many of whom are **temporary appointees**.
- Critics fear this expansion could lead to **politically motivated actions** and misuse of authority.

#### 3. Addressing Waste Dumping:

- **Waste Management Provisions:**
  - Dumping waste into rivers and other water bodies connected to forests is now categorized as a **forest offense**.
  - This is significant as many rivers in Kerala pass through **populated areas** before entering forests, potentially leading to **greater scrutiny over non-forest regions**.

#### 4. Steeper Penalties for Violations:

- **Increased Fines:**
  - The penalty for petty forest crimes has been hiked from **1,000 to 25,000**.
  - In some cases, fines of **25,000** have been doubled to **50,000**.

**Concerns Raised by Stakeholders:****1. Misuse of Power:**

- Farmer organizations and local residents fear that the **expanded powers of forest officials** could lead to **harassment and wrongful actions** against innocent individuals.

**2. Impact on Non-Forest Areas:**

- The provision addressing waste dumping into rivers extends the Act's jurisdiction beyond forests, leading to fears of **increased control over populated areas**.

**3. Temporary Staff and Accountability:**

- By including **temporary forest staff** in the definition of forest officers, there are worries about a **lack of accountability** and potential **political influence**.

**Significance of the Amendments:****1. Strengthening Environmental Protections:**

- The Bill aims to **safeguard forest ecosystems** and prevent **pollution in water bodies**, ensuring better **resource management**.

**2. Enhanced Deterrence Against Violations:**

- The significant increase in fines is expected to act as a **deterrent** against forest-related crimes.

**3. Focus on Sustainability:**

- By targeting activities like **waste dumping**, the Bill reflects Kerala's commitment to **sustainable environmental practices**.

**Balancing Conservation and Community Rights:**

While the amendments aim to bolster forest conservation and environmental management, it is crucial to ensure they do not **infringe upon the rights** of local communities. Transparent implementation and strict **accountability mechanisms** are essential to prevent misuse.

**Way Forward:**

- Public Consultation:** Engage farmers, tribal communities, and local residents to address their concerns.
- Safeguards Against Misuse:** Introduce checks and balances to prevent the misuse of newly granted powers.
- Awareness and Collaboration:** Promote awareness campaigns and collaborative waste management practices to reduce offenses.

By finding a balance between **conservation goals** and **community rights**, Kerala can set an example in **sustainable forest governance**.

**52 Villages Allege Violations of Forest Rights Act (FRA) in Madhya Pradesh**

**Context:** In Madhya Pradesh, **52 villages** in **Damoh, Narsinghpur, and Sagar** districts have raised serious concerns about the violation of the **Forest Rights Act (FRA), 2006**. The villagers allege that they were **forcibly relocated** and deprived of their **forest rights** after the **Rani Durgavati Tiger Reserve** was notified in **September 2023**. These complaints have led the **Ministry of Tribal Affairs (MoTA)** to direct the state government to take action.

**Durgavati Wildlife Sanctuary: Background and Key Features:****Location and Significance:**

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- Situated in Damoh district, Madhya Pradesh, the Durgavati Wildlife Sanctuary was established to protect the biodiversity of the Vindhyan region.
- The sanctuary is known for its rugged terrain and dense forests, which serve as a critical habitat for various wildlife species.

#### Flora and Fauna:

- **Flora:** The sanctuary features dry deciduous forests with key species like Teak, Sal, Mahua, and Bamboo.
- **Fauna:** It is home to species like Chital, Nilgai, Leopards, and Indian Foxes. The sanctuary also hosts various migratory birds and reptiles like the Indian Cobra.

#### Challenges:

- The sanctuary faces human encroachment, deforestation, and illegal poaching, which have threatened the delicate balance of its ecosystem.

#### Understanding the Forest Rights Act (FRA), 2006:

##### Purpose and Key Objectives:

The Forest Rights Act was enacted to recognize and secure the rights of forest-dwelling communities. It aims to:

- Recognize traditional rights of Scheduled Tribes (STs) and Other Traditional Forest Dwellers (OTFDs) over the forest lands they depend on for their livelihoods.
- Empower local communities by providing them with legal rights to forest resources, such as timber, medicinal plants, and grazing areas.

##### Types of Rights Recognized:

- **Individual Rights:** These include ownership of land (up to 4 hectares per family) and access to forest resources.
- **Community Rights:** Rights over the use of minor forest produce, grazing, and water bodies.
- **Community Forest Resource Rights:** Rights to protect, regenerate, and manage forests sustainably.

#### Challenges:

- **Delayed Implementation:** There have been significant delays in recognizing the rights of forest communities.
- **Documentation Issues:** Forest-dwelling communities often face difficulties in providing evidence to prove their eligibility for rights.
- **Conflict with Conservation Laws:** Balancing the rights of local communities with the need for wildlife conservation remains a challenge.

#### News Summary: Allegations of FRA Violations:

##### Background of Allegations:

- The villagers in 52 villages have filed complaints alleging forced relocation and the denial of forest rights after the Rani Durgavati Tiger Reserve was notified in September 2023.
- **Key Issues:**
  - **Non-recognition of Forest Rights:** Villagers claim that their rights over forest resources have not been settled under FRA.
  - **Forced Relocation:** Relocations were carried out without obtaining the free, prior, and informed consent of the affected communities, as mandated by the law.

##### State's Response:

- The Divisional Forest Officer (DFO) of the Nauradehi Wildlife Sanctuary has denied allegations of forced eviction, stating that relocation packages were offered to eligible families.



- The **Rani Durgavati Tiger Reserve** spans 2,339 sq. km, created by merging the **Rani Durgavati** and **Nauradehi Wildlife Sanctuaries**.
- The merger aimed to compensate for the **Ken-Betwa River Linking Project**, which submerged a significant area of forest in the **Panna Tiger Reserve**.

### Government Actions and Directives:

- The **Ministry of Tribal Affairs (MoTA)** has instructed the **Madhya Pradesh government** to address the allegations and respect the **rights** of the local communities under the **Forest Rights Act (FRA)** and the **Wildlife Protection Act (WLP)**.
- The **National Tiger Conservation Authority** has been urged to ensure that **tribal interests** are safeguarded in conservation plans.

### Conclusion: Moving Forward with Respect for Rights and Conservation

The issue of **forest rights violations** in the **Rani Durgavati Tiger Reserve** underscores the importance of striking a balance between **wildlife conservation** and the **livelihoods** of **forest-dependent communities**. A **transparent and consultative approach** is essential to ensure that both **biodiversity conservation** and **community rights** are respected. The **Forest Rights Act (FRA)** must be implemented effectively, with due consideration for the **historical** and **traditional ties** of indigenous populations to their land.

## Innovative Approach to Enhance Nitrogen Use Efficiency in Crops

**Context:** Recent research has unveiled a groundbreaking method to boost **Nitrogen Use Efficiency (NUE)** in crops such as rice and Arabidopsis. This is achieved by **reducing nitric oxide (NO)** levels in plants, paving the way for more sustainable agricultural practices.

### Key Insights from the Study:

#### Role of Nitric Oxide (NO) in Nitrogen Uptake:

- **Nitric Oxide (NO)** plays a vital role in regulating nitrate uptake by controlling **nitrate transporters**.
- **Reduced NO levels** activate **high-affinity nitrate transporters (HATs)**, especially under nitrogen-deficient conditions.
- Overexpressing **phytoglobin**, a natural NO scavenger, significantly enhances the expression of transporters like **NRT2.1** and **NRT2.4**, leading to improved nitrogen absorption.



### Protein Nitrosylation and NUE:

- **Protein Nitrosylation**, a chemical modification of proteins by NO, is crucial for nitrogen regulation.
- By targeting this biochemical process, researchers have demonstrated substantial improvements in **Nitrogen Use Efficiency**.

### NO Scavenging Formulations:

- Development of **NO scavenging formulations** adaptable to diverse agroecosystems offers a practical solution to reduce nitrogen fertilizer usage.

### Importance of Improving NUE:

#### Enhancing Nitrogen Use Efficiency is essential for:

1. **Reducing Overuse of Fertilizers:** Minimizing the reliance on nitrogen fertilizers can lower input costs for farmers.

2. **Mitigating Environmental Pollution:** Controls issues like **nitrate leaching** into groundwater and **greenhouse gas emissions** caused by excessive nitrogen application.
3. **Boosting Crop Yields:** Optimized nitrogen uptake directly contributes to higher productivity and food security.

### Methods Employed:

#### 1. Genetic Manipulation:

- Involves **altering plant genes** to regulate nitric oxide levels within cells.
- This approach enhances the plant's natural ability to efficiently absorb and utilize nitrogen.

#### 2. Pharmacological Manipulation:

- Utilizes **chemical compounds** known as **NO scavengers** to lower nitric oxide concentration in plants.
- This method is adaptable to various agroecosystems and is practical for large-scale agricultural applications.

### Significance of the Study:

The novel approach presented in this research can revolutionize farming by:

- **Cutting down fertilizer dependency**, making agriculture more sustainable and cost-effective.
- **Protecting the environment** through reduced pollution and greenhouse gas emissions.
- Ensuring **food security** by increasing crop yields to meet the demands of a growing population.

### Did You Know?

- **Nitrogen fertilizers** account for a significant portion of agricultural input costs globally, and their inefficient use leads to economic and environmental challenges.
- **High-Affinity Nitrate Transporters (HATs)** are specialized proteins that allow plants to absorb nitrogen more effectively under low-nitrogen conditions.

### Conclusion and Way Forward:

The discovery of this **innovative method to enhance Nitrogen Use Efficiency (NUE)** marks a significant advancement in sustainable agriculture. By combining **genetic** and **pharmacological interventions**, researchers aim to create scalable solutions that benefit both farmers and the environment.

Further exploration of **NO scavenging formulations** and their implementation across various crops and ecosystems could transform modern agriculture, ensuring a **greener future** for farming.

## China's 7.1 Magnitude Earthquake: Unveiling Its Impact and Lessons

**Context:** On **January 7, 2025**, a devastating earthquake measuring **7.1 on the Richter scale** shook the Tibetan region of China and neighboring areas. The **epicenter** was located in **Tingry County**, Shigatse, just **80 km north of Mount Everest** and at a depth of **10 km**. This catastrophe resulted in **95 fatalities**, **130 injuries**, and the destruction of hundreds of homes. Tremors were felt as far as **Kathmandu (Nepal)**, **Thimphu (Bhutan)**, and **Kolkata (India)**, highlighting the wide-reaching impact of this seismic event.



### Significance of the Location:

#### 1. Geographical and Cultural Context:

- **Epicenter:** Tingry County is situated in **Shigatse**, a high-altitude Tibetan region averaging **4,000-5,000 meters above sea level** with a population of over **800,000**.
- **Cultural Importance:** Shigatse houses the **Panchen Lama**, making it a pivotal center for **Tibetan Buddhism**.

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- **Tourism:** Tingry acts as a key gateway to **Mount Everest**, and the earthquake led to an immediate halt in tourism activities, further affecting the local economy.

## 2. Proximity to Strategic Infrastructure:

- **Lhasa Terrane:** The earthquake occurred in a tectonic zone significant for **geophysical studies** and **development projects**.
- **Yarlung Tsangpo Dam:** This region hosts China's **mega-dam project** on the Yarlung Tsangpo River, capable of producing **300 billion kWh annually**, which has implications for water flow into India's **Brahmaputra River**.
- **Impact on India:** Any disruption in the Yarlung Tsangpo could affect **water availability** and **ecosystems** in India's northeastern states.

## 3. Environmental Sensitivity:

- The Himalayas, known as the **"third pole"**, hold vast **water reserves** vital for millions of lives.
- Earthquakes in this fragile ecosystem can cause:
  - **River course changes**, such as those observed with the **Ganga** after past earthquakes.
  - **Glacial instability**, potentially leading to catastrophic floods.

## Causes of the Earthquake:

### 1. Tectonic Activity:

- The **Indian Plate** colliding with the **Eurasian Plate** at a speed of **60 mm/year** continues to generate immense geological stress.
- This tectonic interaction formed the **Himalayan range** and triggers periodic seismic events.

### 2. Historical Vulnerability:

- The **Lhasa Terrane** has experienced **21 earthquakes** of magnitude **6 or higher** since 1950.
- Notable events include the **6.9 magnitude earthquake** in Mainling (2017), underscoring the region's susceptibility to disasters.

### 3. Predictive Science:

- Geologists have identified fault lines prone to seismic activity, such as the ones that led to the **2015 Nepal earthquake**.
- Studies indicate that major quakes in the region occur approximately every **80 years**, providing valuable data for preparedness.

## Implications of the Disaster:

### 1. Humanitarian Impact:

- **Casualties:** The loss of life and injuries underscore the need for robust disaster management.
- **Displacement:** Hundreds of families have been left homeless, requiring urgent **relief** and **rehabilitation**.

### 2. Environmental Consequences:

- **River System Disruption:** Earthquakes can alter river courses, increasing flood risks.
- **Glacial Risks:** Destabilized glaciers could accelerate **global warming effects** in the Himalayan region.

### 3. Regional Geopolitical Tensions:

- **India-China Relations:** The earthquake's proximity to the **Yarlung Tsangpo-Brahmaputra basin** raises concerns about **water security** and the need for bilateral cooperation.
- **Infrastructure Stability:** The safety of large-scale projects like the Yarlung Tsangpo dam is now under scrutiny.

## Key Insights and Takeaways:

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### 1. Geological Awareness:

- Understanding the **tectonic dynamics** of the Indian and Eurasian plates is critical to predicting and mitigating future earthquakes.

### 2. Infrastructure Resilience:

- Mega projects in seismically active zones, such as the Yarlung Tsangpo dam, must undergo **rigorous risk assessments** to ensure safety and sustainability.

### 3. Disaster Preparedness:

- Regional governments must prioritize **early warning systems**, **emergency response plans**, and **public awareness programs** to reduce casualties and economic losses.

### Conclusion:

The **7.1 magnitude earthquake** in China's Tibetan region serves as a stark reminder of the intricate interplay between **geological forces**, **environmental sensitivity**, and **geopolitical considerations**. While immediate relief efforts focus on rescuing affected communities, a long-term strategy is essential. This includes **enhanced seismic research**, **sustainable development practices**, and **international cooperation**, particularly in regions as interconnected and fragile as the Himalayas.

By fostering resilience and collaboration, nations can better prepare for such natural calamities and safeguard the lives and livelihoods of millions.

## Polar Vortex and Winter Storms: Understanding the Phenomenon in the USA

**Context:** The United States recently experienced one of the **most severe winter storms** in over a decade. This extreme weather event has been linked to disruptions in the **polar vortex**, a critical atmospheric system influencing global weather patterns.

### What is the Polar Vortex?

The **polar vortex** is a **massive area of low-pressure and frigid air** that rotates around the Earth's **polar regions**. It acts as a containment system for Arctic cold air and exists in two distinct layers of the atmosphere:

- Tropospheric Polar Vortex:**
  - Found in the **lowest layer of the atmosphere** (up to 10–15 km).
  - Primarily responsible for **weather-related phenomena** and temperature fluctuations.
- Stratospheric Polar Vortex:**
  - Located in the **upper atmosphere** (15–50 km).
  - Strongest during **autumn** and typically dissipates in the **summer months**.

### How Does the Polar Vortex Trigger Extreme Cold?

- Under **normal conditions**, the **polar vortex** is **strong and stable**, keeping the **jet stream** (a fast-flowing air current in the upper atmosphere) moving in a smooth, circular motion around the Arctic.
- This stabilizes the separation between **cold Arctic air** and **warmer air in southern regions**.
- However, when the **polar vortex weakens**, the **jet stream becomes wavy**, allowing **cold Arctic air** to escape southward.
- This results in **frigid temperatures** across regions as far south as **Florida**, often accompanied by heavy snowfall and freezing winds.







## Impacts of the Polar Vortex:

### 1. Cold Air Outbreaks:

When the **polar vortex expands or shifts**, it pushes Arctic air southward, affecting regions like the **USA, Europe, and Asia**. This leads to **extreme cold weather events**, causing widespread disruptions.

### 2. Ozone Depletion:

- In the **Antarctic region**, the polar vortex traps cold air, which contributes to **ozone depletion**.
- Low temperatures enable the formation of harmful **chlorine compounds**, which break down the ozone layer, leading to the infamous **ozone hole** over Antarctica.

### 3. Impact on Aviation:

The **intensification of the polar vortex** affects **aviation operations**, with freezing temperatures and increased **winter precipitation** causing flight delays, cancellations, and safety concerns.

### 4. Impact on India:

A **weakened polar vortex** amplifies the activity of **western disturbances** in India, leading to:

- Heavy snowfall in the **western Himalayas**.
- Unseasonal rainfall in northern plains, disrupting agriculture.
- Cold waves in parts of central and northern India.

## Additional Insights and Global Perspective:

### 1. Climate Change and Polar Vortex:

- **Rising global temperatures** may increase the frequency of weakened polar vortex events, making extreme winter storms more common.
- Studies suggest that Arctic warming influences the **jet stream**, leading to prolonged cold snaps in mid-latitude regions.

### 2. Economic and Social Impact:

- Severe winter storms disrupt **transportation, energy supply, and daily life**, resulting in billions of dollars in economic losses.
- Prolonged exposure to extreme cold can lead to **health issues**, including hypothermia and frostbite, particularly among vulnerable populations.

### 3. Preparation and Mitigation:

- Improved **weather forecasting** and early warning systems can help mitigate the impact of such extreme weather events.
- Enhancing **infrastructure resilience**, such as insulating power grids and bolstering transportation systems, is vital in regions prone to polar vortex disruptions.

## Conclusion:

The **polar vortex** plays a pivotal role in shaping global weather patterns, particularly in winter. Its disruption, as seen during the recent **severe winter storm in the USA**, underscores the importance of understanding this atmospheric phenomenon. As **climate change** continues to influence weather systems, better preparedness and scientific insights will be crucial to minimizing the impact of such extreme events on lives and livelihoods.

### Pink Fire Retardant in California Wildfires: Effectiveness and Concerns

**Context:** Southern California is battling wildfires, prompting the use of **planes and helicopters** to combat the flames. Notably, **nine planes are spraying pink fire retardant**, while 20 helicopters are dropping water.

Though fire retardant has been used for decades, **recent studies question its effectiveness and environmental impact**, adding urgency to the ongoing debate.

#### What Is Pink Fire Retardant?

##### Understanding Fire Retardant:

Fire retardant is a **chemical mixture** designed to **slow or stop wildfires**. The most widely used brand in the U.S. is **Phos-Chek**, a product engineered for strategic wildfire management.

##### Key Ingredients of Phos-Chek:

- **Water**
- **Fertilizer:** Mainly **ammonium phosphate**
- **Rust-based red dye**
- **Thickening agents** to control viscosity

The **active ingredient**, ammonium phosphate, cools fuels, depletes oxygen, and creates a protective barrier, making it highly effective in slowing fires. Unlike water, it remains effective for longer durations.

##### How Does It Work?

- Reacts with **plant cellulose**, producing non-flammable carbon material.
- Reduces fire spread by consuming heat and **coating fuels**.
- Strategically applied to create **fire barriers** that can last for **days or weeks**, even after water evaporates.

##### Why Is It Pink?

The pink dye enhances **visibility** against the landscape, allowing firefighters to **accurately create fire lines**. Experts selected pink for its **visibility and aesthetic appeal**.

##### Concerns About Fire Retardant Use

##### Environmental Impact:

- Aerial spraying of fire retardant has been criticized for being **ineffective and costly**.
- It releases **pollutants**, including **toxic metals** like chromium and cadmium, into rivers and streams, harming **aquatic life** and potentially causing **serious health risks** such as **cancer, kidney, and liver diseases**.

##### Effectiveness in Question:

- The success of aerial fire retardants depends on variables such as **terrain, weather, and fuel type**, making it difficult to measure their true effectiveness.
- Forest Service scientists highlight that retardants are **only effective under specific conditions**, which are becoming rarer due to **climate change**.

##### Increased Use Amid Rising Wildfires:

- As global temperatures rise, **wildfires are intensifying**, leading to a surge in the use of aerial fire retardants.
- From 2009 to 2021, over **440 million gallons** of retardant were deployed in the U.S., releasing more than **400 tons of heavy metals** into the environment.

##### Ongoing Debate:

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Page No  
**150**





- **Environmental experts, government agencies, and manufacturers** remain divided over the **safety and sustainability** of fire retardants. The debate continues as wildfires grow more frequent and severe.

### Final Thoughts:

While pink fire retardant is a widely used tool in combating wildfires, its **environmental and health impacts** raise significant concerns. As climate change intensifies wildfires, the **balance between effectiveness and ecological harm** remains a critical issue.

## How Temple Traditions Impact Elephant Welfare and Wild Captures

**Context:** The use of elephants in religious ceremonies has sparked significant debate over **animal welfare, public safety, and wild captures**. A recent incident in Malappuram, Kerala, where a distressed elephant injured 24 people during a mosque feast, has reignited these discussions, especially amidst ongoing legal disputes.

### Key Statistics:

- Kerala reported **24 captive elephant deaths** in 2024 and **154 deaths** since 2019.
- Between 2011 and 2023, captive elephants killed **196 people** at festivals.
- The **Supreme Court** recently invoked *volenti non fit injuria* (voluntary assumption of risk), stating that devotees attending festivals with elephants accept inherent risks.



### Court Stances on Elephant Use:

#### Kerala High Court's Intervention:

In November 2024, the Kerala High Court mandated strict safety measures for festivals involving elephants:

- **3 meters** between elephants.
- **5 meters** between an elephant and flaming torches.
- **8 meters** between elephants and the public or percussion displays.
- **100 meters** between elephants and fireworks.

These measures, intended to prevent overcrowding, effectively limited the number of elephants used during festivals.

#### Impact on Thrissur Pooram:

The iconic **Thrissur Pooram** festival, initiated in the late 18th century, faced challenges adhering to these guidelines. Organizers deemed the **3-meter distance rule** impractical and escalated the matter to the Supreme Court.

#### Supreme Court's Decision:

- The **Supreme Court** stayed the Kerala HC order, emphasizing that courts should not legislate.
- It reinstated the **Kerala Captive Elephants (Management and Maintenance) Rules, 2012**, which are often flouted, as evidenced by incidents like parading five elephants within confined spaces.

### Suffering of Elephants in Religious Ceremonies:

#### Lack of Choice for Elephants:

Unlike devotees who voluntarily attend festivals, **elephants are forced into stressful and dangerous environments**.

- The elephant involved in the Malappuram tragedy had a history of aggression and was reemployed after a brief break.

#### Health and Stress Impacts:

A 2019 study by the **Center for Cellular and Molecular Biology (CCMB)** revealed alarming stress levels in elephants participating in festivals:

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- **Stress hormones** (glucocorticoid metabolites) led to issues like **hyperglycemia, suppressed immunity, and neuronal cell death.**
- Captive elephants in forest camps or zoos had lower stress compared to those in festivals.

#### Visible Signs of Distress:

- **Stereotypic behavior:** Head bobbing, weaving, and swaying due to monotony and mental distress.
- **Physical strain:** Kneeling, trunk-lifting, and prolonged standing exacerbate health issues.
- **Noise and light exposure** worsen their agony during ceremonies.

#### Continued Wild Captures Despite Legal Protections:

##### Legal Restrictions:

- The **1977 ban on capturing wild elephants** remains, except for treating animals unfit for the wild.
- **Trading captive elephants** was banned in 1986, but loopholes persist, such as gifting elephants to temples.

##### Challenges:

- **Ineffective breeding:** Captive breeding is rare due to challenges in managing aggressive male elephants during musth.
- **Illegal practices:** Wild elephants are falsely registered as captive-bred by tampering with microchips.

#### Exploiting Human-Wildlife Conflicts:

Man-elephant conflicts provide a pretext for capturing wild elephants. Politicians often propose relocating "problem elephants" to temples, perpetuating the cycle of captivity.

#### The Way Forward:

##### Wildlife Act Amendment (2022):

The amendment allows the central government to frame rules for transferring elephants for "religious and other purposes." This provision risks undoing decades of conservation efforts.

##### DNA Mapping for Better Regulation:

- In 2022, the Centre launched **DNA profiling** of captive elephants to identify bloodlines and improve regulation.
- In six months, **270 elephants** were genotyped, marking a step towards transparency.

#### Balancing Culture and Welfare:

Elephants are deeply entrenched in Kerala's cultural and religious traditions, making their removal from festivals challenging. A balanced approach is necessary:

- **Leveraging cultural pride** to promote elephant welfare.
- Implementing and expanding Kerala High Court's safety measures.
- **Judicial guidance**, rather than legislation, to ensure safer practices while respecting traditions.

#### Conclusion:

The use of elephants in religious ceremonies highlights the conflict between **tradition, safety, and animal welfare.** While festivals symbolize cultural heritage, ensuring the **well-being of these majestic animals** is crucial. By adopting balanced measures and stricter regulations, India can honor its traditions without compromising the dignity and safety of elephants.





## Environment Protection (End-of-Life Vehicles) Rules, 2025

**Context:** The Ministry of Environment, Forest & Climate Change has recently notified the **Environment Protection (End-of-Life Vehicles) Rules, 2025**, under the **Environmental Protection Act, 1986**. These rules, which are set to come into effect on **April 1, 2025**, are a significant step towards managing **End-of-Life Vehicles (EoLV)** in an environmentally responsible manner.



An **End-of-Life Vehicle (EoLV)** refers to any vehicle that is no longer validly registered or has been declared unfit by **Automated Fitness Centres**, or whose registration has been canceled.

### Key Highlights of the EoLV Rules:

#### Applicability:

The rules apply to:

- **Producers** involved in vehicle manufacturing
- **Registered owners** of vehicles
- **Registered Vehicle Scrapping Facilities (RVSF)**
- **Automated Testing Stations** that perform vehicle inspections
- Entities responsible for **handling, processing, and scrapping** EoLVs.

#### Exceptions:

The rules **do not** apply to:

- **Waste batteries** (covered under the **Battery Waste Management Rules, 2022**)
- **Plastic packaging** (covered under the **Plastic Waste Management Rules, 2016**)
- **Waste tyres and used oil** (covered under the **Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016**)
- **E-waste** (covered under the **E-Waste (Management) Rules, 2022**)

### Responsibilities of Producers and Registered Owners:

#### Producer's Responsibilities:

- Producers must comply with the **Extended Producer Responsibility (EPR)** framework, either by:
  - Purchasing **EPR certificates** generated by their own RVSF
  - Obtaining EPR certificates from any entity possessing an RVSF.
- The **EPR certificates** will be issued by the **Central Pollution Control Board (CPCB)** via a centralized **online portal** in favor of the **RVSF**.

#### Registered Owner and Bulk Consumer Responsibilities:

- Registered owners and bulk consumers are required to deposit their **End-of-Life Vehicles (EoLV)** at any of the producer's **designated sales outlets, Collection Centres**, or an **RVSF** within **180 days**.

### Implementation and Oversight:

#### Implementation Committee:

To ensure the effective implementation of the **End-of-Life Vehicles Rules**, the **Central Government** has constituted an **Implementation Committee**, chaired by the **Chairman of CPCB**. This committee will oversee the progress and ensure compliance across all relevant sectors.

### Conclusion:

The **Environment Protection (End-of-Life Vehicles) Rules, 2025** are a crucial initiative aimed at managing the growing issue of vehicle disposal and ensuring environmentally sustainable practices in the handling of **End-of-Life Vehicles**. By establishing clear responsibilities for producers and vehicle owners and setting up a framework for **Extended Producer Responsibility (EPR)**, these rules are poised to make a significant impact on waste management and environmental conservation.

### Tropical Flora's Resilience During Deccan Volcanism: A Groundbreaking Study

**Context:** A recent study conducted by the **Birbal Sahni Institute of Palaeosciences (BSIP)** has shed light on the remarkable **resilience of tropical flora** during the massive **Deccan Volcanism** event that occurred approximately **66 million years ago**.

The study challenges previous assumptions about the devastating impacts of volcanic activity on plant life, revealing that **tropical flora** showed a notable ability to withstand **climatic stresses** associated with the volcanic eruptions.



#### Key Findings and Insights:

- **Resilience of Tropical Flora:** The study found that tropical plants, particularly those in rainforests, exhibited a higher resilience to the stresses caused by volcanic eruptions, with no significant negative impact from the **Deccan Volcanism**.
- **Impact of Toxic Greenhouse Gases:** While tropical flora managed to endure the volcanic activity, the release of **toxic greenhouse gases** into the atmosphere contributed to the **Cretaceous-Paleogene (K-Pg) mass extinction**, leading to a rise in global temperatures.
- **K-Pg Mass Extinction:** The **K-Pg extinction** event is one of the '**Big Five**' mass extinctions in Earth's history, occurring at the end of the **Cretaceous period** and marking the beginning of the **Tertiary period**. This extinction event had catastrophic consequences for terrestrial life, notably the extinction of **dinosaurs**.
- **Relevance of the Study:** One of the key takeaways is that **tropical rainforests** have a remarkable ability to **recover quickly** under favorable climatic conditions, highlighting the resilience of these ecosystems in the face of severe disruptions.

#### Understanding the Deccan Volcanism:

The **Deccan Volcanism** was a series of massive volcanic eruptions that took place around **66 million years ago**, contributing significantly to the environmental changes that marked the K-Pg mass extinction.

- **Lava Flows:** The eruptions resulted in some of the longest lava flows on Earth, stretching over **1500 km**.
- **Formation of the Deccan Traps:** These volcanic eruptions produced the **Deccan Traps**, an extensive plateau of basaltic lava that spans **500,000 km<sup>2</sup>** across the **west-central Indian subcontinent**.
- **Geological Significance:** The Deccan Traps were formed when **India** passed over the **Reunion hotspot**, a volcanic hotspot that continues to be active today, last erupting on the **Reunion Island**.

**Impact of the K-Pg Mass Extinction:** The **K-Pg mass extinction** was triggered by a combination of **volcanic activity** and other environmental factors, causing a dramatic shift in Earth's climate and atmosphere. While **tropical flora** showed resilience, the extinction event led to the loss of many species, including the **dinosaurs**, and drastically altered ecosystems worldwide.

**Significance of the Findings:** This study underscores the **remarkable resilience** of **tropical ecosystems**, specifically **rainforests**, even in the face of major climatic and environmental upheavals. The findings highlight the importance of protecting these vital ecosystems, which have the capacity to **recover** and maintain biodiversity if left undisturbed.



The research also provides valuable insights into the long-term **impact of volcanic events** on global ecosystems and climate, furthering our understanding of Earth's geological and ecological history.

## Mission Mausam: Revolutionizing Weather Forecasting in India

**Context:** The Prime Minister inaugurated Mission Mausam to commemorate the 150th anniversary of the India Meteorological Department (IMD), ushering in a new era of advanced weather forecasting and disaster preparedness.

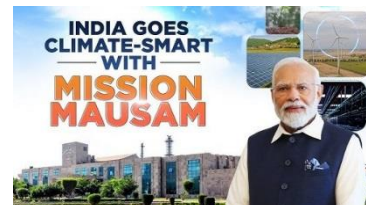
**About Mission Mausam:**

**Objective:**

To **upgrade India's weather forecasting capabilities** by incorporating cutting-edge technologies for more precise predictions and effective dissemination.

**Key Features:**

1. **Budget Allocation:** 2,000 crore allocated for the first two years of implementation.
2. **Focus Areas:** Enhancing **weather surveillance**, refining **modelling techniques**, and improving **forecasting accuracy**.
3. **Beneficiary Sectors:** Agriculture, aviation, defence, disaster management, tourism, and healthcare will benefit from more reliable weather predictions.
4. **Implementation Phases:**
  - **Phase 1 (2025–March 2026):** Expand observational infrastructure and conduct simulation experiments.
  - **Phase 2 (2026 onwards):** Deploy satellites and aircraft for more precise observations.
5. **Supervising Institutions:**
  - Mission Mausam will be led by three institutions under the **Ministry of Earth Sciences**:
    - **India Meteorological Department (IMD)**
    - **Indian Institute of Tropical Meteorology (IITM), Pune**
    - **National Centre for Medium-Range Weather Forecasting (NCMRWF), Noida**



**Cloud Chamber: A Key Component:**

**What is a Cloud Chamber?**

- A **state-of-the-art facility** to be established at IITM, Pune.
- It is a **cylindrical or tubular chamber** where water vapor and aerosols are injected under controlled **humidity** and **temperature** conditions to simulate cloud formation.

**Purpose:**

- Study the formation of **cloud droplets** and **ice particles** under realistic conditions to better understand **monsoon behavior**.

**The Need for Mission Mausam:**

1. **Enhanced Forecasting:** Improve weather forecast accuracy by **5-10%** and provide predictions at the **panchayat level** with a **10-15 day lead time**.
2. **Advanced Technology:** Leverage **AI, machine learning**, and **supercomputers** to develop better weather models.
3. **Air Quality Management:** Improve **air quality forecasts** for metro cities by up to **10%**.



4. **Real-Time Updates:** Reduce the frequency of **nowcasting** updates from three hours to one hour for near-instant updates.

#### Significance of Mission Mausam:

1. **Addressing Extreme Weather Events:** With rising incidents of **cloudbursts, lightning, and heavy rainfall**, this mission will significantly improve disaster preparedness.
2. **Weather Modification Techniques:**
  - Explore innovations like **cloud seeding** (used in the US, China, and UAE) to:
    - **Induce rainfall** in drought-prone regions.
    - **Prevent floods** by dispersing excessive rainfall.
3. **Localized Solutions:** Tackle challenges such as **simultaneous droughts and floods** by enabling more localized and precise interventions.

#### India Meteorological Department (IMD):

- **Established:** 1875.
- **Role:** The principal government agency for all meteorological and weather-related activities.
- **Governance:** Functions under the **Ministry of Earth Sciences (MoES)**.

#### Conclusion:

Mission Mausam is a transformative initiative aimed at addressing India's **climatic challenges** and enhancing **disaster resilience**. By integrating advanced technologies and localized approaches, it promises to revolutionize how India predicts, manages, and responds to weather-related events.

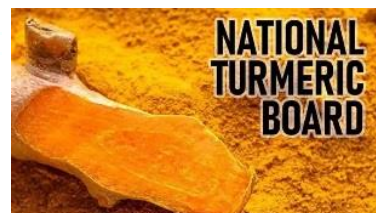
### National Turmeric Board: A New Era for the Golden Spice

**Context:** The **Union Minister of Commerce & Industry** recently inaugurated the **National Turmeric Board** in New Delhi, with **Palle Ganga Reddy** appointed as its first **Chairperson**.

#### Overview of the National Turmeric Board:

##### About the Board:

- The **National Turmeric Board** is a **dedicated body** established to promote the **cultivation, research, and exports** of turmeric.
- It aims to ensure **holistic growth** in the turmeric sector and improve the livelihoods of farmers.
- **Headquarters:** Located in **Nizamabad, Telangana**.
- **Ministry:** The Board operates under the **Ministry of Commerce and Industry**.



#### Primary Goals:

- **Enhance Turmeric Production:** Increase the output of turmeric through improved practices and technology.
- **Support Farmers:** Focus on farmer welfare by promoting sustainable practices and providing better market access.
- **Boost Exports:** Enhance **global exports** of turmeric and its **value-added products**.

#### Core Functions:

- **Awareness Campaigns:** Educate about the **medicinal and nutritional benefits** of turmeric.





- **Research and Development:** Foster innovations to **increase yield** and improve the **logistics and supply chain** to reach **new markets**.

### About Turmeric: The Golden Spice

#### Botanical Information:

- **Scientific Name:** *Curcuma longa*
- **Family:** Zingiberaceae (ginger family)
- **Region:** Native to the **Indian subcontinent** and **Southeast Asia**.
- **Common Name:** Known as the “**Golden Spice**” due to its distinct yellow color and wide usage in cooking and medicine.

#### Growing Conditions:

- **Temperature:** Thrives in temperatures between **20°C to 30°C** with high **annual rainfall**.
- **Farmers:** Turmeric is cultivated by farmers across **20 Indian states**, including **Maharashtra, Tamil Nadu, Andhra Pradesh, Telangana, Madhya Pradesh, and Meghalaya**.

#### Turmeric Production in India:

##### India's Role in Global Turmeric Trade:

- India is the **largest producer, consumer, and exporter** of turmeric globally.
- The country cultivates **30 varieties** of turmeric and accounts for over **70% of global turmeric production**.

#### Production Statistics:

- **Cultivation Area:** India has a total cultivation area of **3.05 lakh hectares**.
- **Production:** In **2023-24**, India produced **10.74 lakh tonnes** of turmeric.
- **Global Trade:** India holds more than **62%** of the global turmeric trade. In **2023-24**, **1.62 lakh tonnes** of turmeric and its products were exported, valued at **226.5 million USD**.

#### The Path Forward:

The **National Turmeric Board** is set to revolutionize the turmeric sector by not only enhancing production but also creating awareness about its **health benefits** and **medicinal properties**. This move will also facilitate more **efficient exports**, bringing India closer to its goal of leading the global market for **turmeric** and its **value-added products**.

## Policy Framework for Affordable Bioethanol Fuel in India

**Context:** India holds a unique opportunity to transition towards **carbon neutrality**, but a key barrier remains the **high cost** of bioethanol fuel. According to **Honda Motor Co. Ltd**, while India can significantly contribute to reducing its carbon footprint, it needs government support to make **bioethanol pricing** more **affordable** for widespread adoption.



#### Key Policy Recommendations for Affordable Bioethanol:

##### 1. Government Pricing Mechanism:

- **Subsidies & Tax Reductions:** The government must introduce policies that **reduce taxes** on bioethanol, making it more competitive with conventional **gasoline**. Direct **subsidies** can help lower the cost burden, ensuring bioethanol is more **economical** for consumers.
- **Price Stabilization Strategies:** A **stabilization fund** could mitigate price volatility, ensuring that ethanol prices remain steady despite market fluctuations.



## 2. Incentivizing Bioethanol Production:

- **Farmer Support:** Increase incentives for farmers to grow **ethanol feedstocks** like **sugarcane, maize, and wheat**. Policies could include **higher minimum support prices (MSPs)** or direct subsidies to encourage large-scale production.
- **Research & Development:** The government should fund **R&D** to enhance the **efficiency** of ethanol production, focusing on non-food feedstocks to reduce costs and reliance on crops like sugarcane.

## 3. Promoting Higher Ethanol Blends:

- **Accelerating E20 Implementation:** The rollout of **E20** (20% ethanol blend) should be prioritized, with a focus on infrastructure investments such as **blending stations** and **fuel distribution networks** to make this blend widely available.
- **Flex-fuel Vehicle Adoption:** Introduce incentives to encourage manufacturers to produce **flex-fuel vehicles** capable of running on higher ethanol blends. Tax relief and purchase subsidies could increase the adoption of these vehicles.

## 4. Enhancing Fuel Efficiency in Vehicles:

- **Collaborations for Innovation:** Vehicle manufacturers should be encouraged to invest in **innovative technologies** that optimize fuel efficiency, enabling vehicles to run smoothly on higher ethanol blends.
- **Consumer Incentives for Green Vehicles:** Providing tax benefits for consumers who purchase **ethanol-compatible vehicles** will stimulate demand for greener alternatives.

## 5. Public Awareness & Education:

- **Nationwide Campaigns:** To ensure **consumer acceptance**, the government should launch **educational campaigns** that highlight the **environmental benefits** and long-term cost savings of ethanol as an alternative fuel.
- **Transparency in Fuel Efficiency:** Providing clear information on fuel efficiency for vehicles using ethanol blends will help consumers make informed decisions.

## 6. Developing Infrastructure:

- **Building Blending Stations:** Invest in the establishment of **ethanol production plants** and **blending units** to support increased demand for ethanol-based fuels.
- **Improving Distribution Networks:** The expansion of **supply chains** will ensure that bioethanol fuel is readily available in both urban and rural areas.

## 7. Sustainability and Environmental Impact:

- **Monitoring Sustainability:** Establish an independent body to oversee **ethanol production** and ensure it is sustainable, balancing environmental and agricultural needs.
- **Cleaner Alternative to Gasoline:** Position ethanol as a **clean-burning** fuel that helps reduce **greenhouse gas emissions** and **air pollution**, aligning with India's long-term environmental goals.

## 8. Encouraging Private Sector Participation:

- **Fostering Private Investment:** Incentives like **tax breaks** and **financial support** for private companies willing to invest in ethanol infrastructure and production will drive growth in the sector.
- **Public-Private Partnerships (PPP):** Strong partnerships between the **government** and **private players** can lead to better resource mobilization and implementation of large-scale ethanol projects.

## 9. International Collaboration & Best Practices:

- **Exporting Surplus Ethanol:** India can explore opportunities to **export ethanol** to other countries, thus improving the domestic supply chain and boosting the economy.

- **Global Partnerships:** By engaging with countries successfully running ethanol blending programs, India can adopt **global best practices** and accelerate its own bioethanol objectives.

### 10. Continuous Monitoring & Program Evaluation:

- **Ethanol Program Oversight:** Establish a dedicated body to monitor the progress of the Ethanol Blended Petrol (EBP) program, ensuring targets are met and potential challenges are addressed proactively.

### Conclusion:

India's **Ethanol Blended Petrol Program** is a critical step towards achieving **energy security**, **carbon neutrality**, and a **self-reliant energy future**. By implementing a comprehensive policy that addresses **pricing affordability**, **supply chain expansion**, and **consumer adoption**, India can harness the full potential of bioethanol and reduce its dependency on fossil fuels. This approach will not only benefit the environment but also support the agricultural sector and enhance national security.

## National Critical Mineral Mission (NCMM)

**Context:** The **Union Cabinet** has approved the launch of the **National Critical Mineral Mission (NCMM)** with an estimated expenditure of **16,300 crore**. This mission aims to accelerate the regulatory approval process for **critical mineral mining projects** in India.

### Mission Objectives:

The **NCMM** is designed to cover the entire **value chain** of critical minerals, including:

- **Exploration**
- **Mining**
- **Beneficiation**
- **Processing**
- **Recovery from end-of-life products**



### Key Features:

- Establishment of **mineral processing parks** to support the **recycling of critical minerals**.
- Encouraging **research** in **critical mineral technologies** by setting up a **Centre of Excellence on Critical Minerals**.
- Development of a **strategic stockpile** of critical minerals within the country.
- Promoting Indian **PSUs and private sector companies** to acquire **critical mineral assets abroad** and strengthen trade with **resource-rich nations**.

### What Are Critical Minerals?

**Critical minerals** are essential for **economic development and national security**. They are crucial for technological advancements in various industries, including:

- **High-tech electronics**
- **Telecommunications**
- **Transportation**
- **Defense sector**

### Challenges in Supply Chain:



Due to the **limited availability** and **geographical concentration** of these minerals, supply chain vulnerabilities have emerged. This necessitates the development of **value chains** for minerals critical to India's growth.

### Applications of Critical Minerals:

#### 1. Clean Energy Technologies:

- Zero-emission vehicles
- Wind turbines
- Solar panels

#### 2. Advanced Manufacturing:

- Batteries (Cadmium, Cobalt, Lithium)
- Semiconductors (Gallium, Indium, Selenium)
- Permanent magnets and ceramics

#### 3. Defense & Electronics:

- New-age technologies (Beryllium, Titanium, Tungsten, Tantalum)
- Medical devices and cancer treatment (Platinum Group Metals - PGMs)

### India's List of Critical Minerals:

India has identified **30 critical minerals**, including: **Antimony, Beryllium, Bismuth, Cobalt, Copper, Gallium, Germanium, Graphite, Hafnium, Indium, Lithium, Molybdenum, Niobium, Nickel, Phosphorous, Potash, Rare Earth Elements (REE), Rhenium, Silicon, Strontium, Tantalum, Tellurium, Tin, Titanium, Tungsten, Vanadium, Zirconium, Selenium, and Cadmium.**

### Global Collaboration: Minerals Security Partnership (MSP):

India is a member of the **Minerals Security Partnership (MSP)**, which includes **23 global partners** such as the **US, EU, Japan, Australia, Canada, and others**. This partnership aims to facilitate **public and private investments** in critical mineral supply chains worldwide.

### India's Initiatives to Secure Critical Minerals:

- 1. Mines and Minerals (Development and Regulation) Act, 1957:** Amended in **2023** to promote **exploration and mining** of critical minerals.
- 2. Geological Survey of India (GSI):**
  - Conducted **368 exploration projects** in the past three years.
  - **195 projects** currently underway in **FY 2024-25**.
  - Plans for **227 new projects** in **FY 2025-26**.
- 3. KABIL (Khanij Bidesh India Ltd.):** A joint venture under the **Ministry of Mines**, acquiring **15,703 hectares** in **Argentina's Catamarca province** for **Lithium exploration**.
- 4. Custom Duty Reforms:** The **Union Budget 2024-25** eliminated **custom duties** on most critical minerals, encouraging the **establishment of processing facilities** in India.

### Future Roadmap:

India is actively collaborating with **resource-rich countries** to secure its mineral supply:

- **Tanzania – Niobium, Graphite**
- **Zimbabwe – Lithium**
- **Congo & Zambia – Copper, Cobalt**

With India's commitment to **energy transition** and achieving **net-zero emissions by 2070**, securing a **steady supply of critical minerals** will be pivotal for **sustainable economic growth** and **technological advancement**.

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### Green Steel Mission: Paving the Way for a Sustainable Steel Industry

**Context:** The **Indian government** has introduced the **Green Steel Mission**, a comprehensive initiative with a budget of **15,000 crore**, aimed at **reducing carbon emissions** in the steel industry and aligning it with India's **net-zero emissions target by 2070**.



#### India's Steel Sector: An Overview:

##### Production:

- India's **crude steel capacity** reached **179.5 million tonnes** in **2023-24**, with finished steel production totaling **139.15 million tonnes**.
- The **private sector** contributes about **83% of total crude steel output**, showcasing its dominance.
- The **National Steel Policy 2017** aims to make India a global steel leader by setting a target of **300 million tonnes** production capacity by **2030-31**.

##### Consumption:

- India consumed **75.6 million tonnes** of finished steel during **April-October 2024**.
- Per capita steel consumption** stood at **86.7 kg** in **FY23**, highlighting the growing demand in domestic and industrial markets.

#### Key Features of the Green Steel Mission:

##### 1. Decarbonization Goals:

The mission focuses on transforming the steel industry into a **low-carbon sector** to meet **climate targets under the Paris Agreement** and **India's net-zero ambitions**.

##### 2. Production-Linked Incentive (PLI) Scheme for Green Steel:

- Encourages the production of **green steel** to reduce reliance on imports.
- Attracts investments and boosts **domestic manufacturing** of specialty steel.

##### 3. Incentives for Renewable Energy:

- Promotes the integration of **renewable energy** in steel production.
- Aims to significantly reduce the **carbon footprint** of the industry.

##### 4. Green Procurement Mandates:

- Government agencies are required to **purchase green steel**, creating demand and incentivizing sustainable practices.

#### Benefits of Decarbonizing the Steel Industry:

##### 1. Environmental Impact:

Reducing carbon emissions will help in limiting the **global temperature rise**, contributing to the achievement of the **Paris Agreement goals**.

##### 2. Health and Community Benefits:

- Adoption of cleaner technologies will improve **air and water quality**, safeguarding the health of local communities.
- Prevents **environmental degradation**, ensuring sustainable development.

##### 3. Employment Opportunities:

- Creates jobs in **renewable energy, technology development, and green infrastructure**.
- Stimulates economic growth through the development of **sustainable supply chains**.



### Supporting Policies and Initiatives:

#### Task Forces for Decarbonization:

- **14 task forces** involving industry, academia, and government bodies have been established to recommend strategies for emission reduction.

#### Steel Scrap Recycling Policy (2019):

- Enhances the availability of **domestic scrap**, promoting a **circular economy**.
- Encourages the establishment of **metal scrapping centers** for recycling steel.

#### Vehicle Scrapping Policy (2021):

- Increases scrap availability through the implementation of vehicle scrapping rules, aiding the steel sector.

#### Integration with National Green Hydrogen Mission:

- Focuses on **green hydrogen production** and its application in steel manufacturing.
- Includes pilot projects for producing **Direct Reduced Iron (DRI)** using **100% hydrogen**.

#### Carbon Credit Trading Scheme (CCTS):

- Introduced in **June 2023**, this scheme allows trading of **carbon credit certificates**, incentivizing industries, including steel, to reduce emissions.

#### Green Steel Taxonomy:

- Defines and categorizes **low-emission steel**, creating a market and facilitating financial support for green initiatives.

#### Additional Insights:

##### Direct Reduced Iron (DRI) Technology:

- Reduces reliance on traditional coal-based methods, making steel production cleaner.

##### Adoption of Renewable Energy:

- Increased use of **solar** and **wind energy** in steel plants reduces dependence on fossil fuels, accelerating decarbonization.

##### Global Leadership:

- By integrating **green steel initiatives**, India positions itself as a global leader in **sustainable industrial practices**, enhancing its competitiveness in international markets.

### Conclusion: A Path Toward Sustainability

The **Green Steel Mission** is a critical step toward combating **climate change** and ensuring sustainable growth in the steel industry. By focusing on **renewable energy**, **green hydrogen**, and **clean technologies**, India can significantly lower the carbon footprint of its steel sector. Collaboration among **government**, **industry leaders**, and **research organizations** is essential to drive this transition and establish India as a hub for **sustainable steel production**.

### India's Defence Exports: A Strategic Leap Towards Self-Reliance

**Context:** India's defence sector is on a significant growth trajectory, with a **Compound Annual Growth Rate (CAGR)** of around **20%** projected for **FY24-FY29**, according to a report by CareEdge Ratings.

#### Key Insights into India's Defence Sector:

##### Budgetary Allocations:

- The **defence budget** consistently represents **1.9% to 2.8%** of India's **GDP**.





- For **2024-25**, a significant allocation of **₹6.22 lakh crore** underscores the government's commitment to strengthening the sector.

#### Indigenous Defence Manufacturing:

- Initiatives like '**Make in India**' are reducing dependence on foreign suppliers while bolstering domestic defence production capabilities.

#### Expanding Defence Exports:

- Over the past six years, **Indian defence exports** have grown at an impressive CAGR of **28%**.
- Defence exports are projected to grow at **19% CAGR** over the next five years, with products ranging from **aircraft and naval systems** to **missiles and military hardware**.

#### India's Defence Export Landscape:

##### Export Targets and Performance:

- Aiming for **50,000 crore** in exports by **FY29**, India's defence exports reached a record **21,083 crore** in **FY23-24**, a **32.5% increase** from the previous fiscal year.

##### Global Footprint:

- India exports defence products to **85 countries**, supported by over **100 domestic firms**.
- Major importers** include **Myanmar (31%)**, **Sri Lanka (19%)**, along with **Mauritius, Nepal, Armenia, Vietnam, and Maldives**.

##### Private Sector Participation:

- The **private sector** accounted for **60%** of defence exports, while **Defence Public Sector Undertakings (DPSUs)** contributed **40%**.

##### Production Growth:

- India's defence production surged from **₹74,054 crore** in **2016-17** to **₹1,08,684 crore** in **2022-23**, with the private sector driving **21.96%** of this growth.

#### Advantages of Enhanced Defence Production:

##### 1. Strengthened National Security:

- With adversaries like **China** and **Pakistan**, boosting **self-reliance** in defence ensures better preparedness.

##### 2. Strategic Autonomy:

- Indigenous production enhances **geopolitical leverage**, positioning India as a **net security provider** in the region.

##### 3. Economic and Technological Boost:

- Advancements in defence technology spur **innovation across industries**, fostering **economic growth**.

##### 4. Reducing Economic Drain:

- India spends **3% of GDP** on defence, with **60%** spent on imports. Indigenous production mitigates this outflow.

##### 5. Employment Opportunities:

- Defence manufacturing drives **job creation** across allied sectors, boosting employment.

#### Challenges in India's Defence Sector:

##### 1. Limited Private Participation:

- A lack of a **conducive financial framework** restricts private sector involvement and innovation.

##### 2. Gaps in Critical Technology:

- Insufficient **design capabilities** and **R&D investments** hinder the development of major subsystems and components.



### 3. Coordination Issues:

- Overlapping roles between the **Ministry of Defence** and the **Ministry of Industrial Promotion** impede smooth operations.

### Government Initiatives to Boost Defence Exports:

#### Simplified Export Processes:

- Platforms like **India Defence Mart** streamline export licensing and tracking.

#### Schemes and Incentives:

- **Scheme for Promotion of Defence Exports (SPDE)**: Financial support for international marketing and defence exhibitions.
- **Technology Upgradation Fund Scheme (TUFS)**: Assistance for modernizing manufacturing facilities.

#### Strategic Partnerships:

- Collaborations with foreign firms under the **Strategic Partnership Model** bolster domestic capabilities.
- The **BrahMos missile project** exemplifies India-Russia defence cooperation.

#### FDI Liberalization:

- **FDI limits** raised to **74% (automatic route)** and **100% (government route)** to attract foreign investments.

#### Defence Corridors:

- Two dedicated **Defence Industrial Corridors** in **Tamil Nadu** and **Uttar Pradesh** foster localized defence manufacturing.

#### Way Forward:

##### 1. Strengthening Private Sector Role:

- Policies like **Green Channel Status (GCS)** encourage private investment in defence production.

##### 2. Promoting Defence Tech Startups:

- With **194 startups** innovating in defence technology, fostering these ventures is key to boosting indigenous capabilities.

##### 3. Achieving Atmanirbhar Bharat Goals:

- Enhanced focus on **self-reliance** and **foreign collaboration** will position India as a global leader in defence manufacturing.

#### Conclusion:

India's robust growth in the defence sector reflects the **global acceptability** of its products and technologies. By addressing challenges, fostering **innovation**, and encouraging **private participation**, India is poised to become a global hub for **defence manufacturing and exports**, ensuring **strategic autonomy** and economic resilience.

## RBI's Financial Stability Report Highlights Rising NPAs and Global Risks

**Context:** The Reserve Bank of India (RBI) recently published its **Financial Stability Report (FSR)** for December 2024. Released bi-annually on behalf of the **Financial Stability and Development Council (FSDC)**, the FSR evaluates key trends and risks in the Indian and global financial systems.

#### Key Takeaways from the Financial Stability Report:

##### Stress Tests Showcase System Resilience:

- **Stress tests** conducted by the RBI confirm that **Scheduled Commercial Banks (SCBs)** are equipped with sufficient **capital buffers** to endure adverse scenarios.







- Resilience is also validated across **mutual funds, clearing corporations, and Non-Banking Financial Companies (NBFCs)**.

#### Improved Government Finance:

- The **central government's debt-to-GDP ratio** is projected to decline from **62.7% in 2020-21** to **56.8% by 2024-25**.
- Similarly, **states' outstanding liabilities** are expected to reduce from **31% to 28.8%** in the same period, reflecting improved fiscal discipline.

#### Economic Growth Projections:

- The Indian economy is anticipated to grow by **6.6% in FY25**, supported by:
  - Revival in **rural consumption**.
  - Increased **government spending**.
  - Robust **services exports**.

#### Concerns Over Rising NPAs:

- The report foresees a potential increase in **Gross Non-Performing Assets (GNPA)** from **2.6% in September 2024** to **3% by March 2026** under baseline stress scenarios.
- Specific focus is required for sectors like **microfinance** and **consumer credit**, which demand vigilant monitoring.

#### Domestic Financial Stability Remains Robust:

- Despite global uncertainties, the Indian financial system showcases resilience, with SCBs maintaining:
  - Decadal highs in **Return on Assets (RoA)** and **Return on Equity (RoE)**.
  - Strong profitability and adequate **capital and liquidity buffers**.

#### Insurance Sector Stability:

- The insurance sector continues to exhibit a **healthy solvency ratio**, indicating financial stability.

#### Key Concerns Highlighted in the FSR:

##### High Public Debt:

- Although public debt is expected to decline post-pandemic, it remains a significant concern for **long-term fiscal sustainability**.

##### Global Economic Vulnerabilities:

- Risks stemming from **stretched asset valuations, high public debt, geopolitical tensions, and emerging technological challenges** could threaten global financial stability.

##### Geopolitical Conflicts:

- Prolonged geopolitical issues may disrupt **global supply chains**, escalate **commodity prices**, and increase **financial market volatility**, posing challenges to the Indian economy.

##### Emerging Technological Risks:

- Cybersecurity threats, data privacy issues, and the potential for technological disruptions** in financial services call for robust regulatory measures.

##### Climate Change Impact:

- Extreme weather events** and the global transition to a **low-carbon economy** pose risks to financial institutions and the broader economy, requiring strategic mitigation efforts.

#### Financial Stability and Development Council (FSDC):

##### Overview:

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- **Established:** 2010 as a **non-statutory apex body**.
- **Objective:** To maintain financial stability and promote the development of the financial sector.

**Key Members:**

- **Chairperson:** Union Finance Minister.
- Members include heads of **financial sector regulators** (RBI, SEBI, PFRDA, IRDA), the **Finance Secretary**, and the **Chief Economic Adviser**.

**Functions:**

- **Monitor Systemic Risks:** Identifies and mitigates risks in the financial sector.
- **Promote Coordination:** Facilitates inter-agency collaboration among financial regulators.
- **Crisis Management:** Develops mechanisms to address financial crises effectively.
- **Sector Efficiency:** Enhances growth and operational efficiency of the financial sector.

**Way Forward:**

- **Address Rising NPAs:** Strengthen early warning systems and implement stricter monitoring of high-risk sectors like **microfinance** and **consumer credit**.
- **Enhance Resilience:** Focus on building robust frameworks for managing **technological risks** and **climate-related vulnerabilities**.
- **Debt Management:** Prioritize fiscal discipline to reduce public debt and ensure sustainable economic growth.
- **Strengthen Cybersecurity:** Develop advanced measures to mitigate **cyber threats** and enhance data privacy protections.
- **Global Collaboration:** Engage in international efforts to stabilize global financial systems amid geopolitical uncertainties.

The **RBI's FSR** underlines India's financial strengths while identifying areas that need careful monitoring. Proactive measures and a collaborative approach will be essential for maintaining long-term financial stability and fostering sustainable economic growth.

**PMFBY and RWBCIS Extended Until 2025-26 with 69,515 Crore Allocation**

**Context:** The Union Cabinet, chaired by Prime Minister Narendra Modi, has approved the continuation of the **Pradhan Mantri Fasal Bima Yojana (PMFBY)** and **Restructured Weather-Based Crop Insurance Scheme (RWBCIS)** until 2025-26. An enhanced allocation of **69,515 crore** has been made to strengthen risk coverage for farmers and promote advanced technology in the agricultural sector.

**Key Highlights:****Why in News?**

The government has extended the **PMFBY** and **RWBCIS** with a significant boost in funding to ensure comprehensive risk coverage for crops and to mitigate financial losses for farmers caused by natural calamities.

**Pradhan Mantri Fasal Bima Yojana (PMFBY):****What is PMFBY?**

Launched in **2016**, PMFBY is an insurance scheme under the **Ministry of Agriculture & Farmers Welfare**. It replaced earlier schemes like the **National Agricultural Insurance Scheme (NAIS)** and the **Modified NAIS**.

- Aligned with the theme **"One Nation, One Scheme,"** it incorporates the best features of previous insurance initiatives while addressing their shortcomings.

**Objectives:**

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- Provide **financial protection** to farmers in case of crop failure due to natural calamities, pests, or diseases.
- Stabilize farmers' income to ensure the continuity of farming activities.
- Encourage the adoption of **modern agricultural practices**.
- Ensure credit flow to the agricultural sector.

**Key Features::**

1. **Affordable Premiums:** Farmers pay **2%** for **Kharif crops**, **1.5%** for **Rabi crops**, and **5%** for commercial and horticultural crops.
2. **Area-Based Implementation:** The scheme operates on an **area approach basis**, with the **village/village panchayat** as the unit for major crops.
3. **No Cap on Subsidy:** The government bears the **entire balance premium**, even if it exceeds **90%**.
4. **Technological Integration:** Use of **smartphones** for real-time crop data and **remote sensing** for yield estimation, reducing delays in claim settlements.
5. **Beneficiary Coverage:**
  - Covers all farmers growing notified crops in a notified area.
  - Made **voluntary** for all farmers from **Kharif 2020**.

**Restructured Weather-Based Crop Insurance Scheme (RWBCIS):****What is RWBCIS?**

Launched alongside PMFBY, RWBCIS safeguards farmers from financial losses due to **adverse weather conditions** like rainfall, temperature, wind, and humidity.

- **Crops Covered:** Food crops, oilseeds, and commercial/horticultural crops.
- **Objective:** Provide insurance for risks like drought, flood, cyclone, and hailstorm to minimize the financial impact of crop damage.
- **Eligibility:** Open to all farmers, including sharecroppers and tenant farmers, cultivating notified crops in designated areas.

**69,515 Crore Boost for Crop Insurance:****Government Support:**

The Union Cabinet approved an **outlay of 69,515 crore** for PMFBY and RWBCIS from **2021-22 to 2025-26**, ensuring sustainable risk coverage for farmers.

**Enhanced Risk Coverage and Innovation:**

- **FIAT (Fund for Innovation and Technology):**
  - Allocated **824.77 crore** to improve transparency and efficiency in claims settlement.

**Technological Initiatives Under FIAT:**

- **YES-TECH (Yield Estimation System Using Technology):**
  - Incorporates **remote sensing technology** for accurate yield estimation.
  - Currently active in **9 states**, with plans to expand nationwide.
  - **Madhya Pradesh** has adopted a **100% technology-based approach**, eliminating manual crop-cutting experiments.
- **WINDS (Weather Information and Network Data Systems):**
  - Plans to deploy **Automatic Weather Stations (AWS)** at block levels and **Automatic Rain Gauges (ARGs)** at Panchayat levels.
  - Expected to increase weather data density fivefold, with pilot implementation in **Kerala, Uttar Pradesh, and Himachal Pradesh** starting in **2024-25**.

### Special Provisions for Northeastern States:

- **Higher Subsidy:** The Central Government will bear **90% of the premium subsidy** for farmers in the Northeast.
- **Flexibility in Fund Allocation:** Funds can be reallocated to other projects if cropping areas or participation levels remain low.

### Key Benefits of the Extension:

- **Improved Risk Coverage:** Comprehensive insurance protection against crop losses due to natural calamities.
- **Technology-Driven Transparency:** Faster and more accurate claim settlements through digital tools.
- **Special Focus on the Northeast:** Higher subsidies and tailored policies for farmers in this region.

**Conclusion:** The extension of **PMFBY** and **RWBCIS** demonstrates the government's commitment to empowering farmers by safeguarding their livelihoods against unpredictable natural risks. With a significant boost in funding and the integration of advanced technology, these schemes aim to revolutionize agricultural insurance in India, ensuring better resilience and financial stability for farmers nationwide.

## Project VISTAAR: Revolutionizing Agricultural Support through Digital Integration

**Context:** The **Indian Institute of Technology (IIT) Madras**, in collaboration with the **Ministry of Agriculture and Farmers' Welfare**, has launched an ambitious initiative, **Project VISTAAR (Virtually Integrated System to Access Agricultural Resources)**. This transformative digital platform aims to enhance the agricultural sector by connecting farmers with innovative solutions and services.



### What is Project VISTAAR?

#### A Digital Solution for Agriculture:

Project VISTAAR is a **comprehensive digital platform** that integrates a vast database of **over 12,000 agricultural start-ups**. These start-ups specialize in offering cutting-edge technologies and solutions in farming and allied sectors.

#### Key Objectives:

- **Digital Transformation of Agricultural Extension:** Streamline and modernize the agricultural advisory system.
- **Ease of Access:** Enable farmers and stakeholders to discover and utilize the capabilities of relevant start-ups.
- **Resource Hub:** Act as a **one-stop solution** for accessing technological, financial, and advisory resources in the agricultural domain.

### Why is Project VISTAAR Important?

#### Expanded Outreach:

The digital platform enhances the agricultural extension system's **reach and efficiency**, ensuring that high-quality advisory services are accessible to **every farmer**.

#### Comprehensive Advisory Services:

Farmers can access tailored guidance on:

- **Crop Production Techniques**
- **Marketing Strategies**
- **Value Addition and Processing**
- **Supply Chain Optimization**

#### Government Schemes at a Click:

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Project VISTAAR integrates detailed information on **government initiatives and schemes** related to agriculture, allied sectors, and rural development. This ensures that farmers can easily identify and benefit from available resources and support.

#### Timely and Accurate Information:

By providing **real-time, context-specific, and reliable information**, the platform significantly boosts the decision-making process for farmers, helping them adapt to challenges and seize opportunities.

#### Additional Features and Benefits:

##### Empowering Start-ups:

The initiative also serves as a **growth enabler for agricultural start-ups**, offering them visibility and connecting them with potential users and collaborators.

##### Building Sustainable Practices:

By promoting innovative solutions, Project VISTAAR encourages sustainable farming practices, including the adoption of eco-friendly technologies and resource-efficient methods.

##### Enhancing Rural Livelihoods:

The platform supports farmers in improving their **productivity and profitability**, contributing to rural development and economic growth.

#### How Does Project VISTAAR Work?

1. **Database of Start-ups:** Maintains detailed profiles of start-ups in the agriculture and allied sectors.
2. **User-Friendly Interface:** Farmers can search for solutions based on their specific needs.
3. **Integration with Extension Services:** Collaborates with local agricultural bodies to provide seamless access to advisory services.
4. **Multi-Channel Accessibility:** Available on multiple platforms, including mobile apps and web portals, ensuring **widespread accessibility**.

#### Did You Know?

- **Agriculture Start-ups in India:** India is home to a rapidly growing agricultural start-up ecosystem, offering solutions in precision farming, AI-based crop monitoring, and blockchain-enabled supply chains.
- **Global Relevance:** Similar digital platforms have been implemented in countries like Israel and the Netherlands, known for their agricultural innovations.

**Conclusion:** Project VISTAAR is a **game-changer for Indian agriculture**, bridging the gap between farmers and innovative solutions while promoting sustainable and profitable farming practices. By leveraging technology and fostering collaboration, the initiative is poised to revolutionize the agricultural sector, empowering farmers and contributing to the nation's food security and economic growth.

## First Advance Estimates of Annual GDP for FY 2024-25

**Context:** The National Statistics Office (NSO) has released the **First Advance Estimates of Gross Domestic Product (GDP)** for the financial year 2024-25, offering a preliminary look at India's economic performance and growth trajectory.

#### What is GDP?

**Gross Domestic Product (GDP)** is the total **market value of all finished goods and services** produced within a country's borders over a specific period. It acts as a **comprehensive measure** of a nation's economic health and serves as a benchmark for policymakers to assess growth and development.





## Understanding the First Advance Estimates (FAE):

The **First Advance Estimates of GDP** provide an early indication of the economy's performance based on a **benchmark-indicator method**.

### Key Features of FAE:

- Data is sourced from various **ministries, departments, and private agencies**.
- Estimates are prepared sector-wise using indicators like:
  - **Index of Industrial Production (IIP)**
  - Financial performance of **listed companies**
  - **Agricultural and horticultural crop estimates**
  - **Livestock production targets**, fish production, and other indicators

### Key Highlights of FY 2024-25 GDP Estimates:

#### GDP Growth:

- **Real GDP Growth:** Expected to grow by **6.4%**, compared to **8.2%** in FY 2023-24.
- **Nominal GDP Growth:** Projected at **9.7%**, marginally higher than **9.6%** in FY 2023-24.

#### Gross Value Added (GVA):

- **Real GVA Growth:** Estimated at **6.4%**, down from **7.2%** in FY 2023-24.
- **Nominal GVA Growth:** Predicted at **9.3%**, up from **8.5%** in FY 2023-24.

#### Sectoral Composition of Nominal GVA:

- **Primary Sector:** Agriculture, Livestock, Forestry, Fishing, and Mining.
- **Secondary Sector:** Manufacturing, Electricity, Water Supply, and Construction.
- **Tertiary Sector:** Trade, Hotels, Transport, Communication, Financial Services, Real Estate, and Public Administration.

#### Components of GDP Growth:

##### Private Final Consumption Expenditure (PFCE):

- Accounts for **60% of GDP**.
- Growth Rate: **7.3%** in FY 2024-25, up from **4.0%** in FY 2023-24.

##### Government Final Consumption Expenditure (GFCE):

- Accounts for **10% of GDP**.
- Growth Rate: **4.1%** in FY 2024-25, up from **2.5%** in FY 2023-24.

##### Gross Fixed Capital Formation (GFCF):

- Represents **30% of GDP**.
- Growth Rate: **6.3%** in FY 2024-25.

#### Net Exports:

- While India continues to face a **trade deficit**, the gap has narrowed recently, reflecting improvements in **export performance** and controlled imports.

#### Challenges to GDP Growth:

1. **Weak Private Consumption:** Sluggish growth in **consumer spending** is limiting overall economic momentum.
2. **Investment Hesitancy:** Businesses are cautious about expansion due to subdued demand and low consumption levels.



3. **Slow Government Spending:** Public expenditure is not growing at a pace sufficient to drive significant economic recovery.
4. **Base Effect:** High growth rates post-COVID-19 are partly attributed to a **low base effect** from the contraction in 2020-21.

#### Did You Know?

- **Primary Sector** includes Agriculture, Livestock, Forestry, Fishing, and Mining.
- **Secondary Sector** covers Manufacturing, Electricity, Water Supply, and Construction.
- **Tertiary Sector** comprises Trade, Transport, Communication, Financial Services, Real Estate, and Public Administration.

#### Conclusion and Way Forward:

The **First Advance Estimates of GDP for FY 2024-25** reflect **moderate but steady growth** despite global and domestic challenges. These estimates provide valuable insights for policymakers to navigate economic hurdles and focus on **sustainable growth**.

#### Key Steps Ahead:

1. **Boost Private Consumption:** Measures to increase consumer spending can stimulate demand and growth.
2. **Encourage Investments:** Incentivizing businesses to invest will drive long-term economic expansion.
3. **Enhance Public Spending:** Increased government expenditure on infrastructure and social programs can fuel growth.
4. **Focus on Exports:** Strengthening export competitiveness can reduce the trade deficit and enhance economic resilience.

By addressing these challenges and leveraging growth opportunities, India can maintain a **strong trajectory** toward achieving its goal of becoming a **\$5 trillion economy** and a **developed nation by 2047**.

## Government Revises Gold Import Data Amid Reporting Discrepancies

**Context:** The **Ministry of Commerce and Industry** recently corrected **gold import figures for November 2024**, reducing the reported value by **\$5 billion**. This adjustment lowered the **trade deficit** and spotlighted challenges in ensuring **accurate trade statistics**, raising concerns about the credibility of India's economic data.



#### Understanding the Reporting Error:

##### What Went Wrong?

- The overreporting resulted from a **technical glitch** during the transition from **SEZ Online** to the **Indian Customs Electronic Gateway (ICEGATE)** system.
- **Double counting** occurred:
  - Imports into **Special Economic Zones (SEZs)**.
  - Clearances to **Domestic Tariff Areas (DTAs)**.

#### Corrected Figures:

- Gold imports for November 2024 were revised from **\$14.8 billion** to **\$9.9 billion**.
- Consequently, the **trade deficit** narrowed from **\$38 billion** to **\$33 billion**.

#### Technical Challenges in Data Transition:

##### Migration to ICEGATE:

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- Designed to **streamline export-import (EXIM) declarations** and ease business operations.
- However, **SEZ Online** and **ICEGATE** initially transmitted data separately, leading to discrepancies.

#### Ongoing Issues:

- Persistent **technical glitches** continue to impact data accuracy.
- The government is working on **reconciliation efforts** to align data from both platforms and eliminate errors.

#### Broader Implications of Data Discrepancies:

##### Credibility at Stake:

- **Global Trade Research Initiative (GTRI)** highlighted that frequent data revisions weaken the credibility of India's **economic statistics**.
- Lack of clear explanations creates uncertainty for **investors, businesses, and policymakers**.

##### Concerns About Wider Errors:

- Potential errors in reporting for other **commodities** or **time periods** have been flagged.
- This raises the need for **proactive reviews** and more stringent **data accuracy measures**.

#### Gold Import Trends and Revised Data Significance:

##### India's Gold Imports:

- India is the **second-largest gold consumer globally**, heavily reliant on imports to meet domestic demand.
- Key suppliers include **African nations, Peru, Switzerland, and the UAE**.

##### Factors Driving Gold Demand:

1. **Festive and Wedding Seasons:** A key factor in seasonal gold purchasing.
2. **Central Bank Purchases:** Increased global acquisitions of gold by central banks have pushed demand higher.
3. **Policy Shifts:**
  - July's **import duty reduction** diverted gold purchases from the **grey market** to official channels.
  - India's **gold jewellery exports** are projected to surpass **\$12 billion in 2025**.

##### Market Stability:

- The revised data **eased concerns** about a potential **import duty hike**.
- Post-revision, no evidence of an **unusual surge** in gold demand was detected, stabilizing market expectations.

#### Conclusion: Building Trust in Trade Statistics

The revision of gold import figures underscores the importance of:

1. **Robust Data Management Systems:** Addressing technical shortcomings to ensure accuracy.
2. **Transparency in Reporting:** Offering clear explanations to maintain trust in official data.
3. **Proactive Error Detection:** Regular reviews to preempt similar discrepancies in other sectors.

Accurate trade statistics are critical for maintaining **economic stability, investor confidence, and policy credibility**. As India advances its digital infrastructure, ensuring the **reliability of economic data** will play a pivotal role in fostering global trust and domestic growth.

#### Did You Know?

- India's **gold demand** typically peaks during **Diwali, Akshaya Tritiya, and the wedding season**.
- The **grey market** previously accounted for nearly **30% of gold trade** until recent policy reforms curtailed illegal imports.

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### Rising Delinquencies Strain India's Microfinance Sector

**Context:** While the overall banking sector in India celebrates a 12-year low in **non-performing assets (NPAs)**, the **microfinance sector** is grappling with a sharp rise in delinquencies, signaling growing challenges for this vital industry.



#### What is Microfinance?

**Microfinance** refers to providing **small loans** and **financial services** to low-income groups that are excluded from traditional banking systems. It plays a critical role in fostering **financial inclusion**, especially for **entrepreneurs** and income-generation activities.

#### Types of Microfinance Institutions (MFIs):

1. **NBFC-MFIs:** Non-Banking Financial Companies focused on microfinance.
2. **NGOs:** Operate as non-profit organizations offering microfinance.
3. **Cooperatives:** Member-owned institutions providing credit services.
4. **Commercial Banks and Small Finance Banks (SFBs):** Provide microfinance under **priority sector lending** norms.

#### Current Scenario in Microfinance:

##### Rising Delinquencies:

- There has been a sharp rise in **Portfolio at Risk (PAR)**, indicating overdue loans (31–180 days).
- **Geographic hotspots:** States like **Bihar, Tamil Nadu, Uttar Pradesh, and Odisha** contribute to **62%** of new delinquencies.
- **SFBs** are particularly vulnerable, witnessing the highest impact.

##### Market Share and Growth:

- **NBFCs and banks** dominate the sector, holding **71.3%** of the total microloan portfolio.
- Despite year-on-year growth of **7.6%** in the loan book and **8.9%** in customer base, there was a quarterly decline of **4.3%** in the loan book and **1.1%** in the active customer base.

#### Key Factors Driving Delinquencies:

1. **Borrower Overleveraging:** Excessive borrowing from both **MFI and non-MFI sources** has left borrowers struggling to manage debt.
2. **Instances of Fraud:** **Fraudulent practices** and **misrepresentation** have increased operational risks for MFIs.
3. **Economic Distress:** **External shocks** and **income instability** have reduced borrowers' repayment capacities.
4. **Operational Challenges:** **High staff attrition** and inadequate borrower assessment mechanisms have further strained operations.

#### Impact of Rising Delinquencies:

1. **Financial Strain on MFIs:** Increased **credit costs** have affected the profitability and financial stability of microfinance institutions.
2. **Reduced Lending Capacity:** Growing **NPAs** restrict MFIs' ability to extend fresh credit, slowing down **financial inclusion** efforts.
3. **Borrower Distress:** Overburdened borrowers face **economic hardships** and risk exclusion from formal financial systems.

4. **Declining Confidence in the Sector:** Rising defaults erode **investor trust** and lender confidence, destabilizing the microfinance ecosystem.

### The Way Forward:

1. **Strengthen Credit Assessment:** Implement **robust borrower profiling** and risk assessment mechanisms to prevent overleveraging.
2. **Promote Financial Literacy:** Educate borrowers about **responsible credit management** and the risks of over-borrowing.
3. **Enhance Regulatory Oversight:** Enforce **stricter supervision** to curb fraud and ensure operational accountability.
4. **Address Operational Challenges:** Improve staff retention by offering **training** and **performance-based incentives** to reduce attrition.
5. **Offer Debt Relief Measures:** Introduce **structured repayment plans** to help overleveraged borrowers regain financial stability.

### Conclusion:

The rising delinquencies in India's **microfinance sector** highlight the need for a balanced and proactive approach. Strengthening credit discipline, promoting **financial education**, and ensuring **regulatory vigilance** are essential for sustaining the sector's growth.

By addressing structural weaknesses and encouraging **responsible lending practices**, the microfinance sector can continue to play a pivotal role in advancing **financial inclusion** and empowering underserved communities.

## United Nations World Economic Situation and Prospects 2025

**Context:** The **United Nations (UN)** flagship report, *World Economic Situation and Prospects 2025*, forecasts that the **Indian economy** will grow by **6.6% in 2025** and **6.7% in 2026**. This growth is expected to be a major driver for the **South Asian region**, highlighting India's pivotal role in the global economic landscape.

### About the Report:

The **World Economic Situation and Prospects 2025** is a comprehensive analysis prepared by:

- The **United Nations Department of Economic and Social Affairs (UN DESA)**
- In collaboration with **UN Trade and Development (UNCTAD)**
- And the **five UN regional commissions**

This report offers insights into **global economic trends**, with a focus on **regional and national growth prospects**.

### Key Highlights from the Report:

#### 1. Global Growth Trends:

- **Global economic growth** is projected to remain at **2.8% in 2025**, unchanged from 2024.
- Investments in **infrastructure development** are expected to have strong **multiplier effects**, boosting economic activity in the coming years.

#### 2. India's Growth Outlook:

- The **Indian economy** will expand by **6.6% in 2025** and **6.7% in 2026**, driven by:
  - Growth in the **manufacturing** and **services** sectors.



- Strong **export performance** in areas like **pharmaceuticals** and **electronics**.
- Favorable **monsoon rains** in 2024 have enhanced agricultural prospects, improving **crop output expectations** for 2025.
- 3. **South Asia's Economic Prospects:**
  - South Asia is predicted to grow at **5.7% in 2025** and **6% in 2026**, with **India** leading the charge.
  - India's strong performance will be pivotal for the **region's economic resilience**.
- 4. **Opportunities for Resource-Rich Economies:**
  - Developing countries with abundant natural resources, like **India**, can leverage the rising demand for **critical minerals** to:
    - Boost **economic growth**
    - Generate **employment**
    - Increase **public revenues** for infrastructure and social investments.

### Conclusion:

The *World Economic Situation and Prospects 2025* underscores the **resilience of India** and **South Asia**, even amidst global economic challenges. With robust **capital investment**, expanding **exports**, and promising **agricultural output**, India is well-positioned to lead the region's growth trajectory.

This report also highlights opportunities for resource-rich nations to harness **critical mineral demand**, presenting a path for sustainable development and economic prosperity.

## National Livestock Mission (NLM) Operational Guidelines 2.0 Unveiled

**Context:** The **National Livestock Mission (NLM)** Operational Guidelines 2.0 have been officially released by the **Ministry of Fisheries, Animal Husbandry & Dairying (FAHD)**. The NLM has been operational since the **2014-15** financial year, with its objectives focused on enhancing the livestock sector.

The guidelines have been revised and realigned starting **FY 2021-22** to address the evolving needs of the sector, ensuring a more **efficient and sustainable** approach to livestock development.

### Key Features and Objectives of NLM 2.0:

**NLM 2.0** aims to foster **entrepreneurship**, increase **per-animal productivity**, and significantly boost the production of **meat, milk, eggs**, and **wool** across various animals such as goats, camels, donkeys, and sheep. The mission also focuses on **innovative solutions** and sustainable practices in the livestock industry.

### Key Sub-Components:

- **Breed Development:** Focus on improving the genetic quality of livestock to enhance productivity.
- **Feed and Fodder Development:** Ensuring adequate and nutritious feed to support animal health and productivity.
- **Innovation and Extension:** Encouraging technological advancements and providing extension services to enhance sector efficiency.

### Funding:

The mission consists of **Centrally Sponsored** components and **Central Financial Assistance (CFA)** components, aimed at supporting and promoting growth in the sector.

Impact on India's Livestock Sector



India boasts the **largest livestock population** in the world and plays a pivotal role in the global livestock industry. The country ranks:

- **1st in milk production**
- **2nd in egg production**
- **5th in meat production**

The contribution of the livestock sector to India's total agriculture and allied sector **Gross Value Added (GVA)** has shown a marked improvement. From **24.38%** in **2014-15**, it rose to **30.23%** in **2022-23** (at current prices), reflecting the growing importance and value of the sector in the national economy.

### Conclusion:

The release of the **NLM 2.0** guidelines marks a significant step forward in enhancing India's livestock sector. With its focus on **sustainable development**, **entrepreneurship**, and **technological innovation**, the guidelines aim to unlock new opportunities and further strengthen India's position as a global leader in livestock production.

## Bharat Cleantech Manufacturing Platform: A Leap Towards India's Clean Energy Future

**Context:** The **Union Minister of Commerce & Industry** recently launched the **Bharat Cleantech Manufacturing Platform** — a bold initiative aimed at bolstering India's **cleantech value chains** across key sectors like **solar**, **wind**, **hydrogen**, and **battery storage**. This platform is designed to foster collaboration among Indian firms, promote **co-innovation**, and create a conducive environment for financing, sharing **ideas**, **technologies**, and **resources**.



### About the Bharat Cleantech Manufacturing Platform:

The **Bharat Cleantech Manufacturing Platform** is a visionary initiative to strengthen India's position as a global leader in the **cleantech** and **sustainability sectors**. Key highlights of the platform include:

- **Collaboration and Co-Innovation:** The platform offers an opportunity for Indian firms to **collaborate**, share insights, and **innovate** together, ensuring cutting-edge advancements in the **clean energy space**.
- **Financing Support:** It aims to provide a solid **financing platform** to drive innovation, making the clean energy sector more viable for businesses.
- **Technology and Resource Sharing:** By enabling firms to share **technologies** and **resources**, the platform will boost **efficiency** and **sustainability** in the clean energy sector.

### Significance of the Platform:

The platform's establishment is a crucial step in **transforming India** into a **global leader** in the **sustainability** and **cleantech** sectors. It not only enhances India's **manufacturing capabilities** but also attracts **global investments**, driving India towards its clean energy goals.

### India's Ambitious Clean Energy Targets:

India is accelerating its journey towards becoming a **clean energy powerhouse**. Here are the key targets:

- **500 Gigawatt Target:** India aims to achieve **500 gigawatts** of clean energy sources by **2030**, a major milestone in reducing dependence on non-renewable energy.
- **Global Performance:** India has been recognized as one of the **best-performing countries** in meeting its **Nationally Determined Contributions (NDCs)** under the **Paris Agreement** and the **UNFCCC**.



- **Early Achievement:** India has successfully met its target of installing renewable or **clean energy** capacity by 2022, 8 years ahead of schedule.
- **World's Largest Interconnected Grid:** India boasts the world's **largest interconnected electricity grid**, reinforcing its **renewable energy infrastructure**.

### Pioneering Clean Energy States:

- **Gujarat** has been a frontrunner in adopting **solar power**, setting a precedent for other states to follow and accelerating India's clean energy growth.

### Conclusion: India's Path to Clean Energy Leadership

The **Bharat Cleantech Manufacturing Platform** marks a pivotal moment in India's clean energy revolution. By enhancing **collaboration**, **innovation**, and **resource-sharing**, this initiative promises to catapult India towards achieving its **sustainability goals** and solidify its position as a **global leader** in the **cleantech** sector. With ambitious clean energy targets and a history of early successes, India is on track to become a key player in the global clean energy landscape.

## Rupee Declines to an All-Time Low of 86 Against the US Dollar

**Context:** The Indian rupee has hit a historic low, crossing the **86 mark against the US dollar**, reflecting significant currency depreciation.

### Understanding Currency Depreciation:

**Currency depreciation** refers to a decline in the value of a country's currency relative to another currency. The Indian rupee has periodically weakened, particularly against the **US dollar**, influenced by various domestic and global factors.



### Key Reasons for Rupee Depreciation:

1. **Rising Crude Oil Prices:** Increased global crude oil prices lead to higher **import bills**, exerting downward pressure on the rupee.
2. **Outflows by Foreign Portfolio Investors (FPIs):** Global economic uncertainties have caused FPIs to withdraw investments, reducing the availability of foreign currency in India.
3. **Increased Demand for US Dollars:** A surge in dollar demand from foreign banks has accelerated the rupee's depreciation.
4. **Weak Domestic Markets:** Underperformance of **equity and bond markets** has reduced India's appeal to foreign investors.

### Impact of Rupee Depreciation:

1. **Exports and Imports:**
  - **Positive:** Makes Indian goods cheaper and boosts exports.
  - **Negative:** Increases the cost of imports, particularly for essential commodities like crude oil and machinery.
2. **Foreign Debt Servicing:** For companies and governments with foreign currency loans, a weaker rupee raises debt repayment costs, straining financial resources.
3. **Inflation:** Higher import costs lead to increased consumer prices, affecting **purchasing power** and driving inflation.

4. **Investor Sentiment:** A declining currency reduces **investor confidence**, impacting **foreign direct investment (FDI)** and increasing capital outflows.

### How the RBI Manages Rupee Value:

1. **Forex Market Intervention:** The **Reserve Bank of India (RBI)** buys or sells dollars to stabilize the rupee and mitigate excessive volatility.
2. **Monetary Policy Adjustments:** **Higher interest rates** attract foreign investments, supporting the rupee.
3. **Forex Reserve Management:** The RBI maintains a buffer of foreign exchange reserves to manage currency fluctuations effectively.

### Way Forward:

1. **Encouraging Long-Term Investments:**
  - o India must focus on attracting **foreign direct investment (FDI)** over volatile foreign portfolio investments (FPI) to stabilize the rupee.
2. **Maximizing Remittance Inflows:**
  - o Policies that simplify remittance processes for **Non-Resident Indians (NRIs)** can increase foreign currency inflows and bolster the rupee.
3. **Boosting Export Competitiveness:**
  - o Strengthen sectors like **technology, pharmaceuticals, textiles**, and manufacturing to enhance export potential and improve India's trade balance.

### Conclusion:

The depreciation of the rupee presents challenges, but it also creates opportunities for export growth. By focusing on **long-term economic policies**, fostering **global competitiveness**, and effectively managing foreign exchange, India can navigate currency fluctuations and achieve financial stability.

## Rebalancing India's Debt Market

**Context:** The **NITI Aayog Vice Chairman**, Suman Bery, recently emphasized the urgent need to **balance the government debt market** and **corporate debt market** in India to ensure sustainable economic growth.

### What is the Debt Market?

The **debt market**, also called the **bond market** or **fixed-income market**, is a platform where entities like governments and corporations raise funds by issuing debt instruments.

### Key Debt Instruments:

- **Government Securities (G-Secs)**
- **Corporate Bonds**
- **Certificates of Deposit (CDs)**
- **Debentures**

The debt market is critical for providing capital for infrastructure, operations, and development projects.

### Current State of India's Corporate Debt Market

While India's **corporate debt market** has witnessed growth, it remains significantly underdeveloped compared to the **government securities (G-Secs)** market.

- **Government Debt:** Raised ₹11.63 lakh crore in FY25.





- **Corporate Debt:** Raised ₹7.3 lakh crore in the first nine months of FY25.

This disparity reflects the **dominance of G-Secs**, driven by **Statutory Liquidity Ratio (SLR)** mandates requiring banks to invest heavily in government bonds.

#### Challenges in Developing the Corporate Debt Market:

1. **Dependence on Bank Lending:** Corporates predominantly rely on **bank credit**, which limits diversification in funding sources.
2. **Regulatory Complexities:** Complicated regulations and limited **credit rating penetration** discourage smaller firms from issuing bonds.
3. **Investor Preference:** **Low-risk options**, like G-Secs and fixed deposits, are favored over corporate bonds by Indian investors.
4. **Market Infrastructure Gaps:** Lack of active secondary markets and market-making mechanisms restrict trading activity.
5. **Creditworthiness Issues:** Many smaller corporates struggle to achieve ratings that would attract investors.

#### Steps to Strengthen the Corporate Debt Market:

1. **Mandatory Corporate Bond Issuance:** SEBI requires large corporations to raise at least **25% of incremental borrowings** via corporate bonds.
2. **Credit Enhancement Tools:** **Partial credit guarantees** by organizations like IIFCL boost investor confidence.
3. **Tax-Friendly Instruments:** Promotion of tax-efficient tools such as **Infrastructure Investment Trusts (InvITs)** and **Real Estate Investment Trusts (REITs)**.
4. **Retail Investor Participation:** Introduction of initiatives like **Bharat Bond ETFs** to attract retail investors into corporate bonds.
5. **Enhanced Credit Rating Framework:** Greater transparency and reliability in credit ratings ensure better risk assessment for investors.

#### Path Forward:

1. **Boosting Liquidity:** Encourage institutional investors, such as **insurance companies** and **pension funds**, to participate in secondary markets.
2. **Increased Retail Engagement:** Promote **awareness campaigns** on the benefits of corporate bonds and launch **investor-friendly products**.
3. **Improved Credit Access:** Support **small and medium enterprises (SMEs)** with easier access to credit ratings and **partial guarantees**.
4. **Leveraging Technology:** Utilize **digital platforms** to simplify the issuance, trading, and accessibility of corporate bonds.

#### Conclusion:

A well-balanced debt market is essential for fostering **economic resilience** and promoting **inclusive growth**. By addressing existing challenges and implementing strategic reforms, India can build a robust corporate debt market that complements its thriving government debt segment.

### Nine Years of Startup India: Catalyzing Innovation and Entrepreneurship

**Context:** India recently marked the **9th anniversary of the Startup India initiative**, a transformative program aimed at fostering entrepreneurship and innovation.

#### Startup India Initiative: A Glimpse

##### Launch and Vision:

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- Launched on **January 16, 2016**, the initiative is spearheaded by the **Department for Promotion of Industry and Internal Trade (DPIIT)**.
- It aims to cultivate a **startup-friendly ecosystem**, fostering innovation and entrepreneurship across the country.

#### Core Features of Startup India:

1. **Ease of Doing Business:** Simplified compliance processes, **self-certification**, and **single-window clearances** to support startups.
2. **Tax Incentives:** Startups meeting eligibility criteria enjoy **tax exemptions** for three consecutive financial years.
3. **Funding Support:** The **₹10,000 crore Fund of Funds for Startups (FFS)** enables startups to access early-stage funding.
4. **Sector-Focused Policies:** Dedicated policies for sectors like **biotechnology, agriculture, and renewable energy** drive growth in niche areas.

#### Flagship Schemes Under Startup India:

1. **Startup India Seed Fund Scheme (SISFS):**
  - Provides financial aid for **concept validation, prototyping, market entry, and commercialization**.
  - Funds are disbursed through eligible incubators.
2. **Credit Guarantee Scheme for Startups (CGSS):**
  - Offers **credit guarantees** for loans provided by banks, NBFCs, and SEBI-registered venture funds to DPIIT-recognized startups.
3. **Fund of Funds for Startups (FFS):**
  - Launched in **June 2016** with a corpus of **₹10,000 crore**, the FFS enhances domestic capital availability.
  - Managed by **SIDBI**, the fund invests in SEBI-registered **Alternative Investment Funds (AIFs)**, which subsequently support startups.
4. **BHASKAR Platform:**
  - Introduced in **September 2024**, this platform connects **startups, investors, and mentors**, particularly focusing on empowering non-metro cities.

#### Key Achievements Over Nine Years:

##### Startup Ecosystem Expansion:

- From **500 startups in 2016** to **1.59 lakh** today, India has emerged as the **world's third-largest startup ecosystem**.

##### Job Creation:

- Startups have generated over **16.6 lakh direct jobs**, with key sectors including:
  - **IT Services:** 2.04 lakh jobs
  - **Healthcare:** 1.47 lakh jobs
  - **Education:** 90,414 jobs

##### Women Entrepreneurs:

- Over **73,000 startups** now have at least **one woman director**, reflecting a significant rise in **women's participation** in the startup ecosystem.

##### Funding Milestones:

- Schemes like the **10,000 crore FFS** and **SISFS** have provided essential funding for startups in their formative stages.

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Freedom UPSC with **Dhananjay Gautam**

Page No  
**180**



**Sectoral Growth:**

- Innovations in **fintech**, **edtech**, **health-tech**, and **e-commerce** have flourished. Companies such as **Zomato**, **Nykaa**, and **Ola** have revolutionized markets and created thousands of jobs.

**Challenges Faced by Startups:**

1. **Regulatory Hurdles:** Outdated regulations often fail to keep up with rapid innovation, creating uncertainty for entrepreneurs.
2. **Skilled Workforce and Mentorship Gap:** The lack of skilled talent and experienced mentors hinders startups' ability to scale effectively.
3. **Infrastructure Bottlenecks:** Poor infrastructure, particularly in smaller cities, affects **internet connectivity**, logistics, and overall growth.
4. **Digital Divide:** Startups in rural areas struggle with limited resources, **market access**, and skilled talent, widening the rural-urban gap.

**The Road Ahead: A Vision for the Future:**

As India continues its journey toward becoming a global hub for **innovation and entrepreneurship**, the **Startup India initiative** remains a cornerstone of this transformation.

To maximize its impact, the government and stakeholders must:

- Streamline **regulatory frameworks** to encourage innovation.
- Bridge the **skill gaps** through targeted training programs.
- Invest in **infrastructure development** in smaller cities and rural areas.

With these measures, **Startup India** will empower entrepreneurs, fuel economic growth, and position India as a leader in the global innovation landscape.

**India's Demographic Transition: Opportunities and Challenges**

**Context:** A recent report by **McKinsey & Company** reveals that **India is on the brink of a major demographic transformation**. By the **2050s**, India's support ratio will align with advanced economies, signaling an **aging population** and a shift in demographic dynamics.

**Key Highlights of the Report:****Economic Impacts:**

- **Demographic Dividend Contribution:** From **1997 to 2023**, India's youthful population added **0.7 percentage points annually** to GDP per capita growth.
- **Future Trends:** By **2050**, this contribution is projected to fall to **0.2 percentage points per year**, underscoring the need for proactive measures.

**Rising Dependency Ratio:**

- In **1997**, India had **14 working-age individuals (15-64 years)** for every senior citizen aged **65 or older**.
- By **2050**, this will decline to **4.6 workers per senior**, and by **2100**, to **1.9 workers per senior**—a ratio comparable to today's **Japan**.

**Female Labor Force Participation:**

- Female participation in the **20-49 age group** is only **29%** in India, compared to **50-70%** in emerging economies and **74%** in high-income nations.
- **Boosting women's participation in the workforce** is a critical recommendation to counteract the economic impact of aging.

**Fertility Rates and Population Projections:**

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- India's fertility rate stands at **1.98 children per woman**, below the replacement level of **2.1**.
- **Population Trends:**
  - India's population will **peak at 1.7 billion in 2061** and then decline.
  - By the end of the century, India's population will be **twice that of China**.

### India's Aging Population: Data Insights

- The share of individuals over **60 years** will rise from **10.5% in 2022** to **20.8% by 2050**.
- By **2100**, the elderly will constitute over **36% of India's population**.
- The **80+ age group** will experience a staggering growth of **279% between 2022 and 2050**, with a predominance of widowed and dependent older women.

### India's Demographic Dividend: A Window of Opportunity

#### Understanding Demographic Dividend:

The **demographic dividend** refers to economic growth potential resulting from a **favorable population age structure**—when the **working-age population (15-64 years)** outnumbers the dependent population (14 and younger or 65 and older).

#### India's Advantage:

- India is currently reaping the benefits of its **young population**, expected to add **183 million working-age individuals** between **2020 and 2050**.
- The dividend is set to **peak in 2041**, with the working-age population making up **59% of the total population**, and last until **2055**.

#### Challenges Hindering Growth:

##### Unemployment:

- To fully leverage the demographic dividend, India must create jobs for the **7-8 million youth** entering the workforce annually.
- **Youth Unemployment:**
  - It surged from **5.7% in 2000** to **17.5% in 2019**.
  - In **2022**, graduate unemployment stood at **29%**, while the rate for illiterates was just **3.4%**.

##### Education and Skill Deficit:

- Over **40% of Indian youth** are educated below the secondary level.
- Only **4%** have access to **vocational training**, highlighting a significant skills gap.

##### Gender Inequality:

- Low **female workforce participation** restricts India's economic potential.

##### Infrastructure Gaps:

- Inadequate infrastructure, particularly in rural areas, hampers **employment opportunities** and **economic growth**.

#### Measures to Address the Challenges:

1. **Skill Development:** Initiatives like the **Skill India Mission** aim to provide training and certification to enhance employability.
2. **Education Reforms:** Policies such as the **New Education Policy 2020** focus on improving the quality of primary and secondary education.
3. **Boosting Manufacturing:** Programs like **Make in India** and **Atmanirbhar Bharat** aim to generate jobs through increased domestic manufacturing and industrial growth.

4. **Encouraging Startups:** The **Startup India** campaign promotes entrepreneurship, offering support to young innovators and job creators.
5. **Expanding Digital Access:** Initiatives like **Digital India** are improving internet access and digital literacy to open new avenues for youth in the tech sector.
6. **Healthcare Improvements:** Programs like **Ayushman Bharat** ensure better healthcare access for the population.

### Way Forward:

- **Learning from Developed Nations:** Countries with aging populations now rely on **migrant workers** for economic growth.
- **Focus on Employment Generation:** Failing to create jobs will not only squander the demographic dividend but also risk **economic stagnation** and **social unrest**.
- **Invest in Youth and Women:** By addressing gender gaps and skill deficiencies, India can turn its population into an economic powerhouse.

As India navigates this **demographic transition**, the focus must remain on **empowering its workforce**, leveraging the young population, and preparing for an aging society. Proper planning today will ensure **sustainable economic growth** and societal well-being in the years to come.

## iSNR: Indian Sustainable Natural Rubber

**Context:** The **Rubber Board of India** has introduced two transformative initiatives—**iSNR (Indian Sustainable Natural Rubber)** and **INR Konnect**—aimed at boosting the global competitiveness of India's rubber industry and enhancing domestic productivity. These projects are designed to align with global sustainability standards and address challenges faced by the sector.

### iSNR: Indian Sustainable Natural Rubber

- **Objective:**  
To align India's **natural rubber production** with the **European Union Deforestation Regulation (EUDR)** standards by introducing a **traceability certification system**.
- **Benefit:**  
Ensures **easier access** to European markets for stakeholders in the rubber supply chain, strengthening India's position in the global market.



### INR Konnect: A Web-Based Productivity Platform

- **Objective:**  
Bridges the gap between **owners of underutilized rubber plantations** and **adopters**, with the goal of improving productivity.
- **Key Features:**
  1. **Certified Network:** Ensures credibility by certifying **growers, adopters, and tappers** through the Rubber Board.
  2. **Training Programs:** Provides **training** in sustainable practices and production management.
  3. **Comprehensive Database:** Maintains a detailed list of **certified tappers** for easy access.
- **Significance:**  
Targets the 20–25% of **underutilized rubber plantations** in India, neglected due to factors like **low rubber prices** and **absentee ownership**, offering a solution to boost productivity.

### India's Rubber Industry: An Overview:



- **Global Position:** India ranks as the **third-largest producer** of natural rubber globally, following **Thailand** and **Indonesia**, and the **fourth-largest consumer**.
- **Key Production Regions:**
  - **Kerala** contributes over **90%** of India's natural rubber output.
  - Other states: **Tamil Nadu, Karnataka, Tripura, Assam, and Meghalaya**.
- **Challenges:**
  1. **Climate Change** affecting yields.
  2. **Competition** from other rubber-producing countries.
  3. **Labor shortages** due to declining interest in tapping.
- **Government Initiatives:**
  - **National Rubber Policy 2019:** Focuses on increasing production, improving productivity, and strengthening the domestic industry.
  - **Sustainable & Inclusive Development of Natural Rubber Sector Scheme:** Promotes **sustainable cultivation practices** and improves the livelihoods of growers.
  - **INROAD Project:** Aims to maximize the potential of untapped plantations.

#### About Rubber Plantations:

- **Scientific Name:** *Hevea brasiliensis*.
- **Origin:** Native to the **Amazon River Basin**, introduced to Asia and Africa by the British during colonial times.
- **Rubber Extraction Process:**
  - Latex, a milky fluid, is tapped from the bark of the tree.
  - Latex is collected and processed into natural rubber.
- **Climatic Requirements:**
  - Annual rainfall of **200–300 cm**.
  - Temperature range: **25°C to 34°C**.
  - Grows best in **deep, well-drained lateritic soil** with good water retention and organic matter.

#### About the Rubber Board of India:

- **Introduction:**

The **Rubber Board of India** is a **statutory body** under the **Ministry of Commerce and Industry**, established by the **Rubber Act, 1947**.
- **Headquarters:** Kottayam, Kerala.
- **Mission and Objectives:**
  1. Promote the **development and research** of the rubber sector.
  2. Stabilize prices and facilitate market access.
  3. Support **domestic and export markets** for natural rubber.
  4. Conduct research on **rubber cultivation, disease management, and high-yield varieties**.
  5. Offer **training programs** to growers, tappers, and processors.

#### Significance of the Initiatives:

The launch of **iSNR** and **INR Konnect** is a significant step toward ensuring **sustainability, transparency, and productivity** in India's rubber industry. These initiatives will help bridge the gap between global standards and domestic practices, enabling India to **cement its position as a global leader** in natural rubber production.

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## ILO Report: Global Estimates on International Migrant Workers

**Context:** The **International Labour Organization (ILO)** recently released the fourth edition of its **Global Estimates on International Migrant Workers**. This report highlights the vital contributions and challenges faced by international migrants in the global labor market.



### Key Findings of the Report:

#### Global Economic Contributions:

- **International migrants** accounted for **4.7%** of the global labor force in 2022, amounting to **167.7 million individuals** (employed and unemployed).
- This marks an increase of over **30 million** since 2013.

#### Regional Distribution:

- **High-income countries** host the majority of international migrants, absorbing **68.4%** (114 million people). Key sectors include **services**, particularly the **care economy**.
- **Upper-middle-income countries** accounted for **17.4%** (29.2 million).
- In regions like **Northern, Southern, and Western Europe**, migrants formed **23.3%** of the labor force, while in **Northern America**, they constituted **22.6%**.

#### Employment Sectors:

- **Services sector:** Represents the largest share of migrant employment at **68.4%** (compared to non-migrants):
  - **Women:** 80.7%
  - **Men:** 60.8%
  - **Care economy:**
    - **Migrant women:** 28.8%
    - **Migrant men:** 12.4%
- **Industry sector:** 24.3%
- **Agriculture:** 7.4% (significantly lower than the **24.3%** share for non-migrants).

#### Age Distribution:

- **Prime-age adults (25-54 years):** Comprise **74.9%** of migrant workers (125.6 million).
- **Youth (15-24 years):** 9.3% (15.5 million).
- **Older workers (55-64 years):** 12.5%.
- **Above 65 years:** 3.4%.

#### Gender Dynamics:

- **Men** made up **4.7%** of total male employment globally.
- **Women** represented **4.4%** of total female employment.
- The number of **women migrants** has consistently increased since 2015.

#### Significance of International Migrants:

- Addressing **labor shortages** in host countries and contributing significantly through **remittances**.
- In **2024, India** received **\$129.1 billion in remittances**, the highest for any country in a year. These funds support families, boost local economies, and drive national development.

#### Challenges Highlighted in the Report:

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1. **Growth Rate Decline:** The annual growth rate of international migrants fell to less than **1%** between 2019 and 2022 due to the **COVID-19 pandemic**.
2. **Gender Disparities:**
  - **Higher unemployment** for migrant women (**8.7%**) compared to men (**6.2%**).
  - Employment-to-population ratio:
    - **Migrant women: 48.1%**
    - **Migrant men: 72.8%**
  - Contributing factors include **language barriers, discrimination, unrecognized qualifications, limited childcare options, and gender-based expectations**.
3. **Unemployment Rates:**
  - Migrants face a higher unemployment rate (**7.2%**) compared to non-migrants (**5.2%**), with women being more affected.

### Policy Recommendations:

To optimize the benefits of labor migration, the ILO emphasizes:

- Comprehensive policies to enhance **labor mobility** and **inclusive growth**.
- Protecting **workers' rights** and ensuring **economic well-being**.
- Addressing specific needs of migrants, focusing on their **safety** and **dignity**.

### About the International Labour Organization (ILO):

- Established in **1919** under the **Treaty of Versailles**.
- Became the first **specialized agency** of the UN in **1946**.
- The **only tripartite UN agency**, involving **governments, employers, and workers**.
- **Headquarters:** Geneva, Switzerland.
- **Member States:** 187.

### Major Reports by ILO:

- **World Employment and Social Outlook (WESO)**
- **Global Wage Report**
- **World Social Protection Report**
- **World Employment and Social Outlook for Youth**
- **World of Work Report**

This report underscores the crucial role of migrants in the global labor market and the need for inclusive policies to ensure their equitable integration and contribution.

## India's Position in the QS World Future Skills Index

**Context:** India's ranking in the **QS World Future Skills Index** highlights its growing potential and challenges in adapting to the rapidly evolving global job market. The country stands out for its strengths in digital readiness and workforce youth but faces hurdles in innovation and skill alignment.

### Understanding the QS World Future Skills Index:





The **QS World Future Skills Index**, developed by **Quacquarelli Symonds (QS)**—globally recognized for its university rankings—evaluates countries on their readiness to tackle future job market demands.

The index focuses on **four key dimensions**:

1. **Skills Fit**: How well workforce skills align with market needs.
2. **Academic Readiness**: The ability of educational institutions to prepare graduates for future jobs.
3. **Future of Work**: The adoption of emerging skills and technologies.
4. **Economic Transformation**: The adaptability of economies to thrive in evolving paradigms.

The inaugural **QS Future Skills Index 2025** sheds light on how countries are preparing for trends like **Artificial Intelligence (AI)**, **green technologies**, and **digital transformation**.

**Key Highlights from the QS Index:**

1. **India's Rank and Category:**

- Ranked **25th overall**, India is classified as a **"contender,"** indicating steady progress in future skill preparedness.

2. **Strengths:**

- **Future of Work**: India scored an impressive **99.1**, the **second-highest globally**, showcasing readiness for digital roles.
- **Youth Demographics**: A large, young population and a thriving **start-up ecosystem** provide a strong foundation for economic growth.
- **Digital Integration**: Alongside Mexico, India ranks among the most prepared nations for integrating talent into **digital roles**.

3. **Weaknesses:**

- **Innovation for the Future**: Low scores in **sustainability** and forward-thinking solutions hinder progress.
- **Academia-Industry Misalignment**: Significant gaps remain in equipping graduates with skills in **AI, green technologies**, and **digital sectors**.
- **R&D Investment**: India's **R&D spending (0.6% of GDP)** is far below the global average of **2.7%**.

**Challenges in Skill Development:**

1. **Skilled Workforce Gap**

- A **National Skill Development Corporation (NSDC)** report highlights a demand-supply gap of **29 million skilled workers**, particularly in sectors like **healthcare, AI, semiconductor manufacturing**, and **green jobs**.

2. **Employability Standards:**

- Only **25% of management professionals**, **20% of engineers**, and **10% of graduates** meet employability standards, as per the **World Economic Forum**.
- The **International Labour Organization (ILO)** reports that **47% of Indian workers**, including **62% of women**, are underqualified for their roles.

3. **Limited Access to Education:**

- Many Indian youth, especially in rural areas, struggle to access **tertiary education** in skills-intensive fields.

**Opportunities for Growth:**

1. **Demographic Advantage:**

- India's youthful population positions it to become a **global leader in skill-based industries**, while other nations face challenges of an aging workforce.



## 2. Policy Initiatives:

- **National Education Policy (NEP) 2020:** Promotes modular education and reskilling.
- **ULLAS (Understanding of Lifelong Learning for All in Society):** Aims to make education and training accessible to all regions.

## 3. Technological Integration:

- Leveraging **digital learning platforms** and **AI** to align academic curricula with industry needs.

## Recommendations for Improvement:

### 1. Align Academia with Industry:

- Universities and training institutions must focus on delivering future-ready skills in **AI, green technologies, and digital sectors**.

### 2. Boost R&D Investment:

- Increasing **R&D funding** is crucial to drive innovation and promote sustainable practices.

### 3. Expand Educational Access:

- Address regional disparities in education through **flexible learning pathways**.

### 4. Foster Collaboration:

- Strong partnerships between **government, academia, and the private sector** are essential for targeted skill development.

## Conclusion:

India's performance in the **QS World Future Skills Index** demonstrates significant potential to lead the global job market in emerging skills. While the country excels in digital readiness, its youthful workforce, and start-up ecosystem, addressing challenges in education, sustainability, and innovation is vital.

By closing these gaps, India can achieve sustainable growth and establish itself as a global powerhouse for **future-ready skills**.

## RBI Issued Norms for Asset Reconstruction Companies (ARCs)

**Context:** The Reserve Bank of India (RBI) has introduced revised norms for **Asset Reconstruction Companies (ARCs)** to enhance transparency and efficiency in the settlement of dues with borrowers.

### Key Features of the Guidelines:

#### 1. Framework for Settlement of Dues:

- ARCs are required to adopt a **Board-approved policy** to govern settlement practices.
- Policies should outline transparent and consistent procedures for settling dues with borrowers.

#### 2. Differentiated Approach Based on Loan Size:

- **For dues above 1 crore:**
  - Approval must come after recommendations from an **Independent Advisory Committee (IAC)**.
  - The IAC should include experts in technical, financial, or legal domains to ensure impartiality.
- **For dues up to 1 crore:**







- Settlement proposals can be approved by **officials not involved** in acquiring the concerned financial asset to avoid conflicts of interest.

### 3. Recovery Safeguards:

- Settlements must ensure that the **Net Present Value (NPV)** of the settlement is not lower than the **realisable value of securities**.

### What is an Asset Reconstruction Company (ARC)?

ARCs are specialized financial institutions that purchase **non-performing assets (NPAs)** from banks and financial institutions. This allows lenders to clean their balance sheets and focus on fresh credit.

### Key Points about ARCs:

- **Introduction:** The **Union Budget 2021-22** announced the establishment of ARCs to tackle India's mounting NPA crisis.
- **Regulation:** ARCs are governed by the RBI under the **SARFAESI Act, 2002**.
- **Role:** They play a pivotal role in resolving stressed financial assets, enhancing the overall stability of the financial system.

### Non-Performing Assets (NPAs):

- **Definition:** Loans or advances that have stopped generating income for the lender.
- **Criteria:** A loan is classified as an NPA when the borrower fails to make payments on the **principal or interest** for at least **90 days**.

### National Asset Reconstruction Company Ltd (NARCL):

- **Formation:** Established in 2021 as a **government-backed ARC**.
- **Ownership:**
  - Majority stake held by **Public Sector Banks (PSBs)**.
  - Remaining stake held by private banks, with **Canara Bank** as the sponsor bank.
- **Regulation:** Registered under the **SARFAESI Act, 2002**.
- **Objective:** To facilitate the resolution of large-value stressed assets by acquiring and managing them effectively.

### Functions of ARCs:

#### 1. Acquisition of Bad Loans:

- ARCs purchase NPAs from banks and financial institutions at a discounted price, enabling lenders to clean up their balance sheets.

#### 2. Resolution of Stressed Assets:

- After acquiring bad loans, ARCs employ various strategies to recover dues, including:
  - **Restructuring** of loans.
  - **One-time settlements**.
  - **Asset liquidation**.

#### 3. Securitization of Loans:

- ARCs can issue securities or bonds to investors.
- These securities are backed by the underlying NPAs, helping ARCs raise funds for further asset acquisitions.

### Concluding Remarks:

- ARCs are essential components of India's financial system, addressing the critical issue of **non-performing assets (NPAs)** and enhancing the health of the banking sector.



- By streamlining asset recovery and resolution, ARCs enable banks to focus on **fresh credit**, contributing to **financial stability** and **economic growth**.
- The revised RBI norms strengthen governance, transparency, and operational efficiency within ARCs, ensuring their pivotal role in India's financial ecosystem remains robust.

## India Became the 7th Largest Producer of Coffee

**Context:** India has emerged as the **seventh-largest coffee producer globally**, with coffee exports reaching **\$1.29 billion** in the last financial year. This marks a significant increase compared to **\$719 million** in exports during 2020-21.

### Key Highlights:

#### Export Insights:

- **Top Buyers:** Italy, Belgium, and Russia are the primary importers of Indian coffee.
- **Unroasted Coffee Beans:** India primarily exports unroasted coffee beans; however, demand for **value-added products** like roasted and instant coffee is increasing.

#### Domestic Consumption:

- The growing popularity of **café culture**, rising **disposable incomes**, and a shift in preferences toward coffee are driving domestic consumption in India.

#### Coffee Production in India:

##### Types of Coffee Grown:

- **Arabica:** Known for its mild flavor and higher market value.
- **Robusta:** More robust and less acidic, often used in instant coffee production.

##### Export-Oriented Commodity:

- **65%-70%** of coffee produced in India is exported, showcasing its export-oriented nature.

##### Regions of Cultivation:

1. **Traditional Areas:**
  - **Western Ghats** in **Karnataka, Kerala, and Tamil Nadu** account for most of India's coffee production.
2. **Non-Traditional Areas:**
  - **Andhra Pradesh, Odisha, and the North-East states** are emerging coffee-growing regions.

##### Leading States:

- **Karnataka:** The top coffee-producing state in India.
- **Kerala:** Second-largest producer.
- **Tamil Nadu:** Third-largest contributor.

##### Climatic and Agricultural Practices:

##### Climatic Conditions:

- Coffee thrives in temperatures between **15°C and 24°C**.
- **Extreme temperatures** outside this range adversely affect yield.

##### Unique Cultivation Practices:

- Indian coffee is cultivated under a **two-tier mixed shade canopy** of evergreen leguminous trees.



**Benefits of Shade Cultivation:**

- Prevents soil erosion on sloping terrains.
- Enriches soil by recycling nutrients.
- Protects coffee plants from temperature fluctuations.

**Coffee Board of India:****Establishment:**

- Created under the **Coffee Act VII of 1942**, the Coffee Board operates under the Ministry of Commerce and Industry.

**Structure:**

- Comprises **33 members**, including the **Chairman** and the **Secretary & CEO**.

**Role:**

- Promotes coffee production in India.
- Facilitates research, marketing, and support for coffee growers and exporters.

**Global Context:**

- **Largest Coffee Producers:**
  1. **Brazil:** Accounts for **40%** of global coffee production.
  2. **Vietnam:** Second-largest producer.
- India's recent rise to the **seventh-largest producer** reflects its growing presence in the global coffee industry.

**Conclusion:**

India's coffee sector is experiencing robust growth, driven by rising exports and domestic consumption. With its unique cultivation methods, favorable climatic conditions, and increasing demand for value-added products, India is well-positioned to strengthen its global coffee footprint.

Further investment in **value addition, branding, and sustainable practices** can unlock additional opportunities for the coffee industry, ensuring continued growth and competitiveness on the global stage.

**New Draft E-Commerce Guidelines: Key Highlights and Implications**

**Context:** The Indian government has introduced draft guidelines titled '**E-commerce - Principles and Guidelines for Self-Governance**', prepared by the **Bureau of Indian Standards (BIS)**. These guidelines aim to establish a fair, transparent, and consumer-friendly e-commerce ecosystem.

**India's E-Commerce Market: A Booming Sector:**

- **Market Projection:** India's e-commerce market is expected to reach **\$363.30 billion by 2030**.
- **Retail Share:** Currently, e-commerce constitutes approximately **7%** of India's total retail market.
- **Online Shopper Base:** By 2030, India is projected to have the **second-largest online shopper base** globally, with nearly **500 million shoppers**.
- **Growth Drivers:** Factors such as **increased internet penetration, rising affluence, and affordable data prices** have fueled the sector's growth.

**Key Provisions of the Draft Guidelines:**

1. **Pre-Transaction Verification:**
- 2.



- **Mandatory KYC:** E-commerce platforms must conduct **Know Your Customer (KYC)** checks for all sellers, especially third-party vendors.
- Verification includes **seller identity, legal entity name, contact details, and business address** to ensure authenticity.

## 2. Comprehensive Product Listings:

- Sellers are required to provide **detailed product information**, including:
  - **Titles and images.**
  - **Specifications.**
  - **Shipping modes.**
- This ensures consumers can make informed decisions.

## 3. Transparent Contract Terms:

- Clear disclosure of:
  - **Product descriptions.**
  - **Price breakdowns.**
  - **Return policies and safety warnings.**

## 4. Secure Payment Mechanisms:

- Implementation of **encryption** and **two-factor authentication** to safeguard consumer data.
- Platforms must offer diverse payment options, such as:
  - **Credit/Debit cards.**
  - **Mobile payments.**
  - **E-wallets and bank transfers.**

## 5. Timely Refunds and Returns:

- Establishing clear timelines for:
  - **Refunds.**
  - **Replacements.**
  - **Exchanges.**
- Provisions to address **counterfeit product complaints.**

## 6. Consumer Reviews and Ratings: Adherence to IS 19000:2022 standards for collecting, moderating, and publishing consumer reviews and ratings.

## 7. Data Protection:

- Ensuring compliance with **data protection regulations.**
- Consumer data should be used only for **transaction facilitation** and **disclosed purposes.**

## 8. No Preferential Treatment:

- Prohibiting **preferential treatment** of sellers or service providers to maintain a **level playing field.**
- Policies to prevent the sale of **counterfeit products** and ensure **impartial operations.**

## E-Commerce Models in India:

### 1. Business to Consumer (B2C): Platforms like Amazon, Flipkart, and Myntra.

### 2. Business to Business (B2B):

- Relevant for industries such as **manufacturing** where businesses procure raw materials.



- Platforms like **Udaan** and **Alibaba** facilitate bulk transactions.
- **100% FDI** is allowed in B2B e-commerce.

**3. Consumer to Consumer (C2C):** Platforms like **OLX** and **Quikr** enable peer-to-peer transactions.

**4. Business to Administration (B2A) & Consumer to Administration (C2A):** Platforms like the **Government e-Marketplace (GeM)** enable public procurement and government-related transactions.

### Other Government Initiatives Supporting E-Commerce:

- **Digital India Program:** Encouraging digital transformation across sectors.
- **Goods and Services Tax (GST):** Streamlining the taxation framework for e-commerce.
- **Draft National E-Commerce Policy, 2019:** Focused on:
  - Data localization.
  - Consumer protection.
  - Intellectual property rights.
  - Competition issues.
- **Open Network for Digital Commerce (ONDC):** A decentralized online platform aimed at reducing business costs for retailers.
- **Government e-Marketplace (GeM):** Enhancing transparency, efficiency, and inclusiveness for SMEs in e-commerce.

### Concluding Remarks:

The **draft e-commerce guidelines** prioritize **self-regulation**, **consumer protection**, and **transparency**, addressing critical challenges in this rapidly growing sector.

## Estimation and Measurement of India's Digital Economy

**Context:** The Ministry of Electronics and Information Technology (**MeitY**) has published a report titled '**Estimation and Measurement of India's Digital Economy**', presenting comprehensive insights into the growth, impact, and potential of India's digital ecosystem.

### About the Report:

- **Global Standards:** The methodologies are based on frameworks developed by the **Organisation for Economic Co-operation and Development (OECD)** and the **Asian Development Bank (ADB)**.
- **Objective:** This is the **first credible, comprehensive, and current estimate** of India's digital economy.



### Major Highlights:

#### 1. Economic Contribution:

- **Current Share:** India's **digital economy** contributed **11.74% of the national income** in 2022-23.
- **Projected Growth:** The share is expected to rise to **13.42% by 2024-25** and could account for **one-fifth of the national income by 2029-30**.
- **Sectoral Dominance:** Within six years, the digital economy's contribution will surpass that of agriculture or manufacturing in India.

#### 2. Employment Generation:



- In 2022-23, the digital economy supported **14.67 million workers**, comprising **2.55% of the national workforce**.
- The digital economy is expanding beyond **ICT industries**, influencing various sectors across the economy.

### Key Facts about India's Digital Economy:

#### 1. Mobile Subscriptions:

- India ranks **second globally**, after China, in mobile cellular subscriptions among the **8.36 billion users worldwide**.

#### 2. 5G Deployment:

- By the end of 2023, **10% of India's population** subscribed to 5G services.
- India became the **second-largest market for 5G smartphones** in early 2024, trailing China.

#### 3. Digital Payments:

- India recorded **1644 billion digital transactions** in FY 2023-24, the **highest volume globally**.

#### 4. ICT Service Exports:

- India's ICT service exports were the **second highest globally** in 2023, after Ireland.

#### 5. AI Projects:

- India contributes **23%** of AI-related projects on GitHub, the **highest in the world**, ahead of the US (14%).

#### 6. Unicorns: As of April 2024, India had the **third-largest number of homegrown unicorns**, following the US and China.

### Recommendations for Accelerating Digital Economy Growth:

1. **Reduce Regulatory Uncertainty:** Ensure **consistent and predictable regulations** for digital platforms and intermediaries.
2. **Enhance Digital Literacy and Skills:** Promote **collaborative efforts** for digital skilling and literacy to ensure broader participation in the digital economy.
3. **Ease of Doing Business:** Simplify policies to attract investments and **facilitate innovation** in the digital sector.
4. **Strengthen Cybersecurity:** Focus on **enhancing trust and resilience** through robust cybersecurity frameworks.
5. **Build Resilient Networks:** Invest in **fixed-line broadband infrastructure** to complement mobile coverage and ensure nationwide connectivity.

### Conclusion:

India's digital economy is poised to be a significant driver of national growth, outpacing traditional sectors in terms of contribution to GDP and employment generation. The government's efforts, along with strategic investments in **infrastructure, cybersecurity, and digital skilling**, will be critical in achieving the full potential of this digital revolution.

By fostering innovation, building trust, and addressing regulatory challenges, India can position itself as a **global digital powerhouse** in the coming years.

### Cabinet Approves 6% Hike in Jute MSP for 2025-26 Marketing Season

**Context:** The Union Cabinet has approved a **6% increase** in the **Minimum Support Price (MSP)** for raw jute for the marketing season **2025-26**, aiming to support farmers and boost the jute industry.

### Key Highlights:



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Page No

194



- **Nodal Agency:** The **Jute Corporation of India (JCI)** will act as the nodal agency for price support operations. Any losses incurred will be **fully reimbursed by the Union Government**.
- **Purpose of MSP:** MSP serves as a market intervention tool by the government to **protect agricultural producers** against price drops during surplus production.

#### Crops Covered under MSP:

- **Kharif Crops (14):** Paddy, jowar, bajra, maize, tur/arhar, moong, urad, groundnut, soyabean, sunflower, sesamum, niger seed, cotton, and ragi.
- **Rabi Crops (6):** Wheat, barley, gram, lentil (masur), rapeseed, mustard, and safflower.
- **Commercial Crops (2):** Jute and copra.

#### Jute Production in India:

- **Golden Fiber:** Jute is valued for being **natural, renewable, biodegradable, and eco-friendly**.
- **Global Leader:** India is the **largest producer** of jute, followed by **Bangladesh** and **China**.
  - However, Bangladesh dominates **global exports**, accounting for **three-fourths of total trade**, while India's share is **7%**.
- **Domestic Consumption:** Around **90% of India's jute production** is consumed domestically due to high market demand.
- **Employment:**
  - Provides **direct employment** to about **4 lakh workers**.
  - Supports the livelihood of nearly **40 lakh farm families**.
- **Regional Contribution:** **West Bengal, Bihar, and Assam** contribute **99% of India's jute production**.

#### Ideal Conditions for Jute Cultivation:

- **Temperature:** Mean maximum temperature of **34°C** and minimum of **15°C**.
- **Rainfall:** Requires **150-250 cm** annually.
- **Soil:** Best suited for **loamy alluvial soils**, though it can grow in clay and sandy loam soils.

#### Challenges in India's Jute Industry:

1. **Competition from Synthetic Fibers:** Synthetic fibers like polypropylene and polyester are more **versatile and cost-effective**.
2. **Lack of Innovation:** Limited product **innovation** and **diversification** hamper growth.
3. **Quality Concerns:**
  - Retting of jute (a process for extracting fibers) is often done in **unclean or stagnant water**, affecting quality.
4. **Issues in Jute Mills:** Outdated machinery, mismanagement, labor shortages, and dependence on government support.
5. **Price Volatility:** Jute prices are affected by **climate conditions** and **supply-demand imbalances**, creating instability in the industry.

#### Government Initiatives for Jute Sector:

##### 1. Legislative Support

- **Jute Packaging Material (Compulsory Use in Packing Commodities) Act, 1987:** Mandates **100% reservation** for food grains and **20% for sugar** to be packed in jute materials.

##### 2. National Jute Development Program (NJDP):

Implemented for 2021-26, it includes:

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- **Improved Cultivation and Retting (Jute ICARE):** Promotes scientific cultivation methods.
- **Jute Resource cum Production Centre (JRCPC):** Trains artisans in jute diversification.
- **Jute Raw Material Bank (JRMB):** Supplies raw jute at mill-gate prices.
- **Jute Design Resource Centre (JDRC):** Develops innovative jute products for domestic and export markets.

### 3. Production-Linked Incentive (PLI) Scheme:

- Encourages jute mills and MSMEs to produce and export **cost-competitive jute diversified products (JDPs)**.

### 4. Market Development:

- **Jute Mark Logo:** Certifies high-quality JDPs.
- **Awareness Campaigns:** Popularizes the use of eco-friendly jute products.

### Conclusion:

Jute is a cornerstone of India's agricultural and industrial landscape, providing **sustainable livelihoods** and **environmentally friendly products**. The **6% MSP hike**, coupled with government initiatives like NJDP and PLI, will strengthen the sector, boost exports, and improve farmer incomes.

To overcome challenges, India must focus on **modernizing jute mills**, **enhancing quality control**, and **promoting innovation** to maintain its global competitiveness.

## Unspent 70,744-Crore Fund for Workers' Welfare: A Missed Opportunity

**Context:** In a recent **Right to Information (RTI)** response, the **Union Labour Ministry** revealed a concerning statistic: **State welfare boards for building and other construction workers** have not yet utilized a staggering **70,744.16 crore** of the cess collected from employers. These funds, meant for the welfare of construction workers, have remained largely **untapped**.



### Understanding the Building and Other Construction Workers (BOCW) Act, 1996

#### Purpose of the Act:

The **BOCW Act** was designed to regulate the **employment, working conditions**, and overall **welfare of construction workers**. The law mandates the establishment of **Construction Workers' Welfare Boards** by **State governments**, which are tasked with implementing various welfare initiatives.

#### Cess Collection for Worker Welfare:

Under the **BOCW Act**, welfare boards are authorized to impose a **cess** ranging from **1% to 2%** of the construction costs incurred by employers. This cess is crucial for funding essential **welfare measures**, including:

- **Temporary accommodation**
- **Drinking water and sanitation**
- **Social security benefits** for workers

#### Who Can Benefit?

Workers aged between **18 and 60** years, engaged in construction activities for at least **90 days** in the last year, are eligible for registration with **State Welfare Boards** as beneficiaries.

#### Current State of Cess Collection and Usage

##### Funds Collected: A Staggering 1.17 Lakh Crore

Since 2005, a total of **1,17,507.22 crore** has been **collected** as cess from construction employers across India. However, a significant portion of these funds remains **unutilized**:

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- 67,669.92 crore has been allocated to workers, but a massive 70,744.16 crore remains unused.

### Key Issues in Implementation

#### Underutilization of Funds

Despite the vast amounts of cess collected, only a fraction has been put to use, leaving workers without the **statutory benefits** they are entitled to.

#### Cess Evasion:

There are growing concerns about **cess evasion**, with allegations suggesting that **builders and employers** are underreporting construction costs, resulting in a significant shortfall in collected cess.

- **Example:** In **Maharashtra**, estimates suggest **construction worth 1 lakh crore** annually, yet the reported cess collection is far lower, indicating possible evasion.

#### Failure to Support Workers During COVID-19

The **COVID-19 lockdowns** in 2020 exposed a glaring flaw in the welfare system, as millions of construction workers were left stranded. The **lack of adequate support** during this crisis highlighted the ineffectiveness of both **State and Central governments** in utilizing the collected funds for the workers' welfare.

#### Conclusion: Time for Action

With over **70,000 crore** lying unused, it's imperative for **State governments** to act swiftly in utilizing these funds for the benefit of **construction workers**. The funds are meant to provide essential support to workers who have long been neglected, and it's high time they received the welfare benefits they are rightfully owed.

## Is Poverty in India Being Underestimated

**Context:** In recent months, the **Indian government** released the **2023-24 Household Consumption Expenditure Survey (HCES)**, which indicated a **decline in poverty** levels across both **urban and rural areas**. While the report paints a hopeful picture, **policymakers and academics** have raised concerns about **incomparable data, data unavailability**, and the very definition of an **adequate consumption basket** used to determine the **poverty line**.



### Poverty Estimation in India: The Evolving Methodologies

India has undergone several revisions in how it measures poverty. Over the years, various **committees** have offered new approaches to ensure more accurate estimations:

#### Y.K. Alagh Committee (1979):

- **Methodology:** Defined the poverty line based on **minimum calorie intake** requirements for both **rural and urban areas**.

#### Lakdawala Committee (1993):

- **Methodology:** Introduced **state-specific poverty lines** and **price indices** to estimate poverty, considering regional disparities.

#### Tendulkar Committee (2009):

- **Shift in Focus:** Moved beyond **calorie consumption** and broadened its focus to **spending patterns**.
- **Methodology:** Introduced the **Mixed Reference Period (MRP)**, considering both **food and non-food** expenditures.

#### Rangarajan Committee (2014):

- **New Poverty Line:** Proposed higher thresholds for poverty estimation.



- **Methodology:** Modified consumption baskets to better reflect **rising living standards** and the realities of the Indian economy.

### Multidimensional Poverty Index (2021):

- **Launched by NITI Aayog:** It moved beyond income-based poverty lines and included **12 indicators** like **access to bank accounts** and **maternal health**.
- **Improvement in Methodology:** The **URP** (Uniform Reference Period) evolved into **MRP** and eventually into **MMRP** to better capture expenditure habits.

### Recent Developments: A Shift Towards More Accurate Data

To enhance the **accuracy** of poverty estimations, the **National Sample Survey Office (NSSO)** has started conducting **multiple household sittings**, which allows respondents to recall their expenditures more accurately. This improvement has led to better data **reliability** and has sparked optimism about more informed poverty policies in the future.

### Decline in Poverty: A Glimpse into the Latest Statistics

The **2023-24 HCES factsheet** has reported a **sharp decline in poverty**, with estimates showing a reduction of **17-18%** in poverty levels since **2011-12**. Some estimates for **2022-23** put poverty levels at around **10%** using the **Rangarajan line**. This decline is attributed to several factors:

- **High GDP growth**
- **Flagship government programs**
- **Improved public delivery systems**

Key interventions like the **National Food Security Act** have played a pivotal role in ensuring **sustained low poverty levels**.

### Urban vs. Rural Poverty: Shifting Dynamics

One of the key findings of the **HCES** is the **narrowing gap** between **rural** and **urban consumption patterns**. Rural areas are showing more **diversified consumption** trends, signaling progress in addressing rural poverty. However, the classification of rural areas is based on **2011 Census data**, which may not fully capture the **urbanization trends**, as many rural areas today are more **urban** or **peri-urban** in nature.

### Conclusion: Are the Numbers Truly Reflective of Poverty in India?

While the decline in poverty levels reported by the **2023-24 HCES** is encouraging, there remain concerns about whether **poverty** is being **underestimated** in India. **Data gaps, methodology limitations**, and the evolving nature of **urbanization** suggest that a more nuanced approach is required to truly understand the complexities of poverty in India.

## India's Rice Exports: Resilience Amidst 2024 Export Restrictions

**Context:** In 2024, **India's rice exports** have shown remarkable resilience despite facing **temporary curbs** earlier in the year. The surge in **premium basmati rice** shipments effectively balanced the drop in **non-basmati rice exports**, allowing India to retain its status as the **world's largest rice exporter**.



India, which accounts for more than **40%** of global rice exports, had imposed **restrictions** on rice shipments in **2023** to address **domestic price rises** and ensure **food security**.

After lifting the curbs in **September-October 2024**, exports rebounded, ending the year on a positive note.



### Key Highlights of Rice Exports in 2024:

- **Total Exports:** India exported **17.8 million metric tonnes (MMT)** of rice in 2024, slightly lower than 2023's 17.86 MMT, demonstrating strong but slightly reduced exports.
- **Basmati Rice Exports:** Basmati rice exports soared by **16.3%**, reaching a **record 5.7 MMT**. **Major Buyers:** Saudi Arabia, Iraq, and the **UAE** contributed significantly to this growth.
- **Non-Basmati Rice Exports:** Exports of **non-basmati rice** declined by **6.9%** to **12.1 MMT**. Countries like **Bangladesh, Cameroon, Djibouti, and Gambia** reduced their imports, primarily due to **high prices**.

### Lifting of Export Restrictions: A Turning Point

India lifted most restrictions on both **non-basmati** and **premium basmati rice** in **September-October 2024**, allowing rice exports to recover strongly in the final quarter of the year.

### Impact on Global Rice Markets:

- **Global Price Stabilization:** India's continued rice exports helped stabilize **global rice prices**, which had spiked during the restrictions.
- **Reduction of Domestic Surplus:** By exporting more, India was able to reduce its **record-high domestic rice stockpile** from an excellent harvest, helping prevent oversupply in the local market.

### India's Strong Domestic Rice Production:

India's **bumper rice harvest** ensured sufficient rice availability for both **domestic needs** and **global markets**. Despite the **temporary curbs**, the government managed to balance **food security** concerns with **export demands**, showcasing its strategic handling of rice exports.

### Why Were Export Restrictions Imposed in the First Place?

- **Domestic Food Security:** Restrictions were primarily imposed to ensure enough rice remained in the country for **food security**, especially amidst rising **domestic prices**.
- **Rising Domestic Prices:** The government had to control rising **rice prices** and ensure that domestic availability was prioritized.
- **Monsoon Uncertainty:** The uncertainty surrounding the **monsoon** season also prompted caution in rice exports to ensure adequate stock for the country's needs.

### Global and Domestic Significance of India's Rice Export Performance:

- **Global Impact:** India's continued rice shipments helped stabilize **global rice markets**, providing much-needed relief to import-dependent countries, even as rice prices remained high.
- **India's Dominance:** India maintained its **dominance** in the global rice market, with record **basmati shipments** strengthening its ties with important trading partners in the **Middle East**.

### Conclusion: India's Resilient Export Story

India's ability to weather export restrictions and maintain strong **rice export performance** in 2024 highlights its resilience in navigating complex global and domestic challenges. The country's proactive policies and its surplus rice production have ensured that it continues to be a key player in **global food security**.

## Union Budget of India: A Blueprint for Economic Growth

**Context:** The **Union Budget** serves as the Government's **financial roadmap**, detailing **expenditure plans, tax policies, and fiscal strategies** that directly influence the nation's economy and its citizens' lives. It is referred to as the **Annual Financial Statement** under **Article 112 of the Indian Constitution**.



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## Key Facts About the Budget

- The Budget must be **passed by Parliament** before it takes effect on **April 1**, marking the beginning of India's financial year.
- The **Railway Budget** was **merged** with the Union Budget in **2017** following the recommendations of the **Bibek Debroy Committee**.
- In **2019**, **Nirmala Sitharaman** became the **second woman** to present the Union Budget, after **Indira Gandhi**.

## Major Components of the Union Budget

The Budget is primarily composed of **three key elements: Expenditure, Receipts, and Deficit Indicators**.

### 1. Expenditure

It is categorized into two types:

- **Capital Expenditure:** Involves spending on assets with a long-term impact, such as **building schools, hospitals, and infrastructure**.
- **Revenue Expenditure:** Covers **day-to-day expenses** such as **wages, subsidies, and interest payments**, which do not create new assets.

### 2. Receipts

Government earnings are divided into three categories:

- **Revenue Receipts:** Includes **tax revenues (income tax, GST, corporate tax)** and **non-tax revenues (dividends, fees, etc.)**.
- **Non-Debt Capital Receipts:** Consists of **loan recoveries and disinvestment proceeds** that do not add liabilities.
- **Debt-Creating Capital Receipts:** Comprises **borrowings and liabilities**, requiring future repayments.

### 3. Fiscal Deficit

- **Fiscal Deficit** represents the shortfall between **total expenditure and the sum of revenue receipts and non-debt receipts**.
- A **high fiscal deficit** indicates excess government spending over earnings, leading to **increased borrowing and debt burdens**.

## Impact of the Union Budget on the Economy

**1. Economic Growth:** The Budget **drives economic expansion** through **public investments in infrastructure, industry, and welfare schemes**, fostering **private sector participation**.

**2. Inflation Control:** By adjusting **subsidies, taxation policies, and debt management**, the Budget plays a crucial role in **controlling inflation** and maintaining **price stability**.

### 3. Fiscal Deficit and Public Debt

- A **rising fiscal deficit** results in **higher borrowing** and **increased interest rates**, impacting **economic stability**.
- Fiscal discipline ensures **sustainable financial health**.

### 4. Taxation and Economic Reforms

- **Changes in tax policies** affect **business investments, consumer spending, and government revenues**.





- Reforms like **GST and direct tax rationalization** enhance efficiency and compliance.

**5. Employment Generation:** Government allocations for **infrastructure development, skill enhancement programs, and social welfare** contribute to **job creation and poverty reduction**.

**6. Foreign Investments:** Investor-friendly policies attract **Foreign Direct Investment (FDI)**, boosting **economic competitiveness and ease of doing business**.

#### 7. Social Welfare and Inclusivity

- Increased spending on **healthcare, education, and social security** enhances **living standards and reduces inequality**.
- Subsidies on **essential goods and services** support vulnerable populations.

**8. Stock Market & Business Sentiments:** The Budget's **tax policies, industry incentives, and economic outlook** shape **investor confidence and stock market performance**.

#### 9. Sustainability and Green Growth

- Emphasis on **renewable energy, climate resilience, and eco-friendly projects** ensures **long-term environmental sustainability**.
- Investment in **green infrastructure** promotes **sustainable economic development**.

#### Conclusion

The **Union Budget** is more than just a financial document—it is a **strategic tool** that defines India's **economic priorities** and sets the course for **sustainable growth, fiscal stability, and national development**. Its impact resonates across industries, households, and global markets, making it a **critical pillar** in shaping the country's future.

### TEAM Initiative to Empower MSMEs in Digital Commerce

**Context:** The **Ministry of Micro, Small & Medium Enterprises (MSME)**, in partnership with the **Open Network for Digital Commerce (ONDC)**, has introduced the **MSME Trade Enablement and Marketing (TEAM)** Initiative to boost digital commerce for small businesses.



#### Key Highlights

- **Budget:** 277.35 crore over **three years** (FY 2024-25 to FY 2026-27)
- **Target Beneficiaries:** 5 lakh Micro & Small Enterprises (MSEs), with **50% women-led enterprises**
- **Implementation Partner:** National Small Industries Corporation (NSIC)
- **Focus Areas:**
  - Onboarding MSEs onto ONDC
  - Developing digital storefronts, integrated payment solutions & logistics support
  - Providing financial aid for seller onboarding, catalog creation & account management
  - Conducting 150+ workshops in Tier 2 & Tier 3 cities, prioritizing SC/ST & women entrepreneurs
  - Strengthening ties with PM Vishwakarma & Digital MSME schemes

#### Why TEAM Initiative?



- **Bridging MSMEs with Digital Commerce:** ONDC integration helps small businesses expand their **market reach** and lower operational hurdles.
- **Formalizing MSMEs:** Enables the creation of **digital transaction histories**, boosting **credibility & trust** among customers and financial institutions.
- **Empowering Startups & Tech Enablers:** Facilitates **innovation** by allowing startups to develop solutions using the **ONDC network**.
- **Enhanced Visibility:** A strong **digital presence** increases **brand awareness** and attracts **new customers**.
- **Improved Credibility:** Establishing **formal operations** enhances trust and **credibility** among consumers.

### What is ONDC?

The **Open Network for Digital Commerce (ONDC)** is an initiative by the **Department for Promotion of Industry and Internal Trade (DPIIT)**, under the **Ministry of Commerce, Government of India**. It aims to **democratize digital commerce** by reducing the dominance of a few **large e-commerce platforms** and creating an **open, decentralized network** where buyers and sellers can seamlessly interact across multiple platforms.

### Key Features of ONDC

- **Interoperability:** Unlike **traditional marketplaces (Amazon, Flipkart, etc.)**, ONDC allows **cross-platform transactions**, enabling buyers and sellers to interact **without platform restrictions**.
- **Decentralized Network:** Instead of being a single platform, **ONDC connects multiple e-commerce applications**, allowing **businesses & individuals** to trade seamlessly.
- **Inclusivity for MSMEs & Startups:** Small businesses can join **ONDC without needing their own website or app**, helping them **expand their reach**.
- **Competitive Pricing:** Eliminates **middlemen & high commission structures**, enabling sellers to **offer better prices**.
- **Multi-Sector Support:** Initially focused on **retail & food delivery**, ONDC is now expanding into **logistics, mobility, wholesale trade, and more**.

### SEBI's "When-Listed" Mechanism: Regulated Trading of IPO Shares Before Official Listing

**Context:** The **Securities and Exchange Board of India (SEBI)** is set to launch a groundbreaking **"when-listed" platform** that will allow trading of shares from companies that have completed their **initial public offering (IPO)** but are yet to be listed on official stock exchanges. This move aims to formalize trading during the gap between IPO closure and stock exchange listing.



### What is the "When-Listed" Platform?

This new platform will provide a **regulated trading environment** for shares between the time of IPO allotment and the official listing, addressing concerns surrounding **unregulated markets** and promoting transparency in the IPO trading process.

### Eliminating Grey Market Activity:



Currently, the **grey market** allows **unofficial** and **unregulated** trading of IPO shares based on **demand and supply** before listing. This market operates in cash, with no actual delivery of shares, and is often used by **retail investors** to gauge IPO investments through **grey market premiums**.

By introducing the “**when-listed**” platform, SEBI aims to reduce reliance on the grey market and provide a **regulated alternative** for investors to trade shares safely before official listing.

#### Key Benefits of the “When-Listed” Facility for Investors:

1. **Regulated Trading:** Investors who receive **IPO allotments** can now trade their shares in a **regulated market** instead of resorting to the unregulated grey market, ensuring **safeguards** and **transparency**.
2. **Reducing Market Volatility:** The grey market often distorts market sentiment, leading to **volatility** and **instability**. By moving trading to a regulated platform, SEBI intends to **control market fluctuations** and ensure **stability** in the market.
3. **Protecting Retail Investors:** The grey market can be risky, particularly for **retail investors** who may lack the resources to navigate unregulated environments. SEBI’s initiative aims to **protect retail investors** by formalizing pre-listing trading and providing them with a safer trading environment.

#### Current Timeline for IPO Listings:

Currently, after an IPO bidding closes, shares are expected to be listed on stock exchanges within **three working days (T+3)**. Investors are allotted shares on **T+1** day, creating a window of uncertainty during the gap between **allotment** and **listing** when grey market trading occurs. SEBI’s “**when-listed**” platform aims to bridge this gap and reduce unregulated trading.

#### Grey Market Trading in IPOs: How It Works

##### What is Grey Market Trading?

When an IPO is announced, **investors**, especially those with low chances of allotment, often turn to the **grey market**. **Brokers** in this market trade shares with a **premium** added to the IPO price band. For example, if the IPO price range is **Rs 90-100 per share**, a **premium** of **Rs 10-30** might be added.

##### Settlement in the Grey Market:

The settlement of grey market trades is determined by the **official opening price** on the listing day:

- If the stock **opens higher** than the grey market price, the operators pay the difference.
- If the stock **opens lower**, the investor faces a **loss**.

#### Conclusion: A Shift Toward Formalized IPO Trading

SEBI’s “**when-listed**” platform is set to revolutionize the way IPO shares are traded, offering **investors a safer, regulated environment** while addressing the **risks** associated with the grey market. This initiative will contribute to a more **transparent** and **stable** market, benefiting both **retail investors** and the **overall financial ecosystem**.

#### SEBI When-Listed Mechanism FAQs:

(Feel free to add any relevant FAQs addressing common questions regarding the “**when-listed**” platform, its **benefits**, **implementation**, and how it will affect IPO trading.)

### Himachal Pradesh's Pilot Project for Controlled Cannabis Cultivation

**Context:** The Himachal Pradesh government has approved a **pilot project** for the **regulated cultivation of cannabis**, aiming to unlock its **medicinal and industrial** potential. This initiative positions Himachal Pradesh as the **fourth Indian state** to permit cannabis cultivation, following **Uttarakhand, Madhya Pradesh, and Jammu & Kashmir**.



#### Why This Initiative?

##### Background & Legal Framework:

- Cannabis grows **naturally** across Himachal Pradesh, yet its cultivation was banned under the **Narcotic Drugs and Psychotropic Substances (NDPS) Act, 1985**.
- Recent **amendments** to the NDPS Act now allow states to regulate cannabis cultivation for **medicinal and industrial** applications under strict **licensing and regulatory conditions**.
- The project aims to **identify suitable cannabis strains** with a focus on **non-narcotic uses** like **textiles, paper, food, cosmetics, and biofuel**.

#### Global Cannabis Market & Himachal Pradesh's Potential

##### Cannabis: A Trillion-Dollar Industry

- Countries such as **Canada, the USA, France, Italy, China, Australia, and Denmark** lead in **hemp cultivation** and the manufacture of cannabis-based products.
- Cannabis has been dubbed a "**Trillion-Dollar Crop**" due to its **wide-ranging applications** across multiple industries.
- With over **25,000 known industrial applications**, Himachal Pradesh aims to **tap into this lucrative market** while ensuring **strict regulatory compliance**.

#### Industrial & Medicinal Potential of Cannabis:

##### Understanding Cannabis Sativa L. (Industrial Hemp):

- Cannabis contains over **100 cannabinoids**, of which **Tetrahydrocannabinol (THC)** and **Cannabidiol (CBD)** are the most significant.
- **THC** is **psychoactive**, while **CBD** is **non-psychoactive** and offers multiple **therapeutic benefits**.

#### Applications Based on THC Content:

1. **Industrial Use (THC < 0.3%):**
  - Used in **textiles, paper, biofuel, cosmetics, food supplements, and animal feed**.
2. **Medicinal Use (THC > 0.3%):**
  - **THC** is used for treating **chronic diseases** such as **Multiple Sclerosis, Crohn's disease, Alzheimer's, cancer, and chronic pain**.
  - **CBD** has shown **potential therapeutic effects** in treating **psychosis, epilepsy, inflammation, and neurodegenerative diseases**.

#### Legality of Cannabis in India:

##### Key Legal Provisions:

1. **International Conventions:**
  - India follows the **Single Convention on Narcotic Drugs (1961)**, which classifies cannabis alongside **hard drugs like heroin**.





## 2. Indian Constitutional & Legal Framework:

- **Article 47** (Directive Principles of State Policy) advises against **harmful drugs and intoxicants**.
- **NDPS Act, 1985** prohibits cannabis cultivation and use.
- **Section 14 of the NDPS Act** allows the **government** to permit **cannabis cultivation** for **horticultural and industrial purposes**.
- **Bhang**, made from cannabis leaves, is **not prohibited** under the NDPS Act and falls under **state jurisdiction**.

## Controlled Cultivation & Economic Benefits:

### Ensuring Responsible Cultivation:

- Only **low-THC hemp varieties** (<0.3% THC) will be cultivated to prevent **misuse**.
- The **focus** will be on **industrial** and **medicinal** applications rather than recreational use.
- Hemp's **stalks, leaves, and seeds** will be processed into **textiles, food, cosmetics, paper, and biofuel**.

### Economic & Revenue Impact:

- The project is expected to **generate an annual income of ₹500 crore** for Himachal Pradesh.
- Aligns with global trends, where **countries like the US, Canada, and Germany** have successfully leveraged **regulated cannabis cultivation** for **economic growth**.

### Challenges & Roadblocks:

#### Regulatory & Implementation Concerns:

1. **Ensuring Compliance:**
  - Strict **quality control measures** must be implemented to **prevent illegal diversion**.
2. **Market & Infrastructure Development:**
  - Need for **strong supply chains** to support cannabis-based industries.
3. **Public Perception & Awareness:**
  - Overcoming **societal stigma** and raising **awareness about the non-narcotic uses** of cannabis.

## Conclusion: A Step Toward Innovation & Economic Growth

Himachal Pradesh's **controlled cannabis cultivation initiative** marks a **progressive shift** toward **harnessing the economic, medicinal, and industrial potential** of cannabis. If implemented **effectively and responsibly**, it could position the state as a **leader in the global cannabis industry**, driving **economic growth, job creation, and industrial development** while ensuring **strict regulatory oversight**.

## RBI's Liquidity Boost: Key Measures to Stabilize the Banking System

**Context:** The **Reserve Bank of India (RBI)** has announced **enhanced liquidity measures** to address the **liquidity crunch** in the **banking system**. These steps aim to **inject liquidity**, counter **rupee depreciation**, and stabilize **monetary conditions**.

### Key Liquidity Measures by RBI:

#### 1. USD/INR Swap Auction:

- RBI will conduct a **six-month USD/INR buy/sell swap auction** worth **\$5 billion** on **January 31, 2025**.
- Under this, banks will **sell US dollars** to RBI in exchange for **rupee liquidity**, which will be **reversed after six months** with a **premium**.





## 2. Open Market Operations (OMO) Purchases:

- The RBI will conduct **Open Market Operation (OMO)** purchases of **Government Securities (G-Secs)** worth **60,000 crore**.
- This will happen in **three tranches** of **20,000 crore** each on **January 30, February 13, and February 20, 2025**.

## 3. Variable Rate Repo (VRR) Auction:

- A **56-day Variable Rate Repo (VRR)** auction for **50,000 crore** will be conducted.
- This marks the **first time** RBI is conducting such a **long-tenor VRR auction**.

## Why These Measures?

### Addressing the Liquidity Deficit:

- These steps will **inject approximately 1.50 lakh crore** into the banking system between **January 30 and February 20, 2025**.
- The **liquidity shortfall** is due to:
  - **Rupee depreciation**
  - **Limited government spending**
  - **Tax outflows**
- The current **liquidity deficit** is estimated at **3 lakh crore**, necessitating **immediate intervention**.

### Challenges in Liquidity Management:

1. **Government Over-Borrowing**
  - Excessive **government borrowing** and **investing surplus cash** can disrupt **liquidity balance**.
2. **Weak Cash Management**
  - **Poor cash flow planning** can lead to **prolonged liquidity imbalances**, affecting RBI's ability to manage debt and monetary policy.

## The Way Forward:

### Stronger Coordination Between RBI & Government

- A **coordinated fiscal approach** is crucial to **prevent liquidity shocks**.

### Flexible & Agile Liquidity Management

- RBI remains **committed to dynamic liquidity management** to ensure **financial stability**.

### Market Monitoring & Policy Adjustments

- RBI will **continuously monitor** liquidity trends and take **further action if needed** to maintain **orderly market conditions**.

## Conclusion

The **RBI's proactive liquidity measures** highlight its **commitment to stabilizing the financial system**. By ensuring **adequate liquidity**, these steps will **support economic stability**, **counter liquidity shortages**, and **strengthen financial markets**.

### INS Nilgiri, INS Surat, and INS Vaghsheer Commissioned: A Leap in India's Naval Power

**Context:** In a landmark event, **three frontline vessels** were commissioned into the Indian Navy at the Naval Dockyard in Mumbai:

- **INS Nilgiri**, the lead ship of the Project 17A stealth frigates.
- **INS Surat**, the fourth and final vessel of the Project 15B stealth destroyers.
- **INS Vaghsheer**, the sixth and final Scorpene-class submarine under Project 75.



This commissioning strengthens **India's maritime capabilities**, showcasing the nation's advancements in naval defense.

#### INS Nilgiri: The Backbone of Project 17A

##### Next-Gen Stealth Frigates:

The **Nilgiri-class stealth frigates**, developed under **Project 17A**, are advanced successors to the Shivalik-class frigates. Designed for **blue-water operations**, they are built to counter both **conventional and asymmetric threats**.

##### Cutting-Edge Features:

- **Integrated Construction:** Reduces building time significantly.
- **Advanced Armament:** Equipped with **supersonic surface-to-surface missiles**, **Medium-Range Surface-to-Air Missiles (MRSAM)**, and **rapid-fire close-in weapon systems**.
- **Multi-Mission Capability:** Excels in **anti-surface, anti-air, and anti-submarine warfare**.

#### The Journey of INS Nilgiri

- **Keel Laid:** December 28, 2017.
- **Launched:** September 28, 2019.
- **Trials and Delivery:** Sea trials began in August 2023, and the ship was handed over to the Navy in December 2024.

#### Other Ships in the Class:

Six more frigates—**Himgiri, Taragiri, Udaygiri, Dunagiri, Vindhyagiri**—are under construction at **Mazagon Dock Shipbuilders Limited (MDL)** and **Garden Reach Shipbuilders and Engineers (GRSE)**.

#### INS Surat: India's AI-Enabled Stealth Destroyer

##### Overview of Project 15B:

INS Surat is the final **stealth-guided missile destroyer** under **Project 15B**, following its predecessors—**INS Visakhapatnam, INS Mormugao, and INS Imphal**. It is an **advanced variant of the Kolkata-class destroyers** under Project 15A.

##### Key Features of INS Surat:

- **AI-Enabled Operations:** India's first **AI-powered warship** for enhanced operational efficiency.
- **Impressive Specifications:**
  - **Displacement:** 7,400 tonnes.
  - **Length:** 164 meters.
  - **Speed:** Exceeds **30 knots (56 km/h)**.
- **Advanced Weapons Systems:** Equipped with **state-of-the-art surface-to-air missiles**, **anti-ship missiles**, **torpedoes**, and modern sensors.

#### Significance of Project 15B:

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- Designed by the Indian Navy's **Warship Design Bureau** and built by MDL.
- Named after **major Indian cities**, representing the country's diverse regions.
- Enhances **offensive and network-centric warfare** capabilities.

### INS Vaghsheer: The Silent Protector

#### The Kalvari-Class Submarine

INS Vaghsheer, the final submarine of the **Kalvari-class**, is built under **Project 75**. These submarines are designed for **stealth and versatility** in various naval operations.

#### Unmatched Capabilities

- **Scorpene-Class Design:** Developed in collaboration with the **French Naval Group**.
- **Diesel-Electric Attack Submarine:** Specializes in **anti-surface warfare**, **anti-submarine warfare**, and intelligence gathering.
- **Quiet and Lethal:** Known for its **silent operation**, making it one of the world's most advanced **hunter-killer submarines**.
- **Powerful Armament:** Equipped with **wire-guided torpedoes**, **anti-ship missiles**, and advanced sonar systems.

#### Historical Significance:

- Named after a **species of sandfish** found in the Indian Ocean.
- Reflects the legacy of India's **Foxtrot-class submarines**, marking the evolution of its submarine fleet.

#### Historic Commissioning Ceremony

##### A Landmark Event:

For the **first time in history**, a destroyer, a frigate, and a submarine were commissioned into the Indian Navy simultaneously. **Prime Minister Narendra Modi** presided over the ceremony, emphasizing India's commitment to maritime security.

##### Indigenous Construction:

All three vessels are proudly **Made in India**, demonstrating the country's growing **self-reliance in defense manufacturing**.

##### Strengthening Naval Power:

The addition of these platforms significantly boosts **India's maritime defense capabilities**, ensuring readiness to counter regional threats.

##### Enhancing Strategic Influence:

These vessels bolster India's role in the **Indian Ocean Region** and beyond, cementing its position as a **key player in global maritime security**.

##### A Proud Moment for India:

The commissioning of **INS Nilgiri**, **INS Surat**, and **INS Vaghsheer** marks a new chapter in India's naval history. These state-of-the-art vessels embody India's vision of a **self-reliant and secure maritime future**, ensuring its dominance in the waters for years to come.



### Key Developments and Implications of the Gurpatwant Pannun Assassination Plot Case

**Context:** The Indian government is addressing allegations surrounding an **assassination plot** targeting **Gurpatwant Singh Pannun**, a Khalistan separatist leader, based on information shared by the United States.



- A **high-level committee**, set up by the **Ministry of Home Affairs (MHA)**, investigated the claims and recommended legal action.
- The timing of these developments is notable as it coincides with the transition to the **Trump administration in the United States**, making this a critical moment in bilateral relations.

#### The Gurpatwant Pannun Assassination Plot Case:

##### Background:

- The United States provided evidence alleging that **Vikash Yadav**, a former Indian official, was involved in a plot to assassinate Pannun.
- **Gurpatwant Singh Pannun** is a **US-Canada dual citizen** and the leader of **Sikhs for Justice (SFJ)**, a banned separatist organization in India.

##### Formation of the Investigation Committee:

- The Indian government created a **high-powered committee** to thoroughly probe the case:
  - Conducted **independent investigations**.
  - Worked closely with US authorities by **sharing evidence** and participating in collaborative visits.

##### Key Findings of the Committee:

- The committee identified **criminal links and activities** of the accused.
- It recommended **swift legal action** against the implicated individuals.
- It proposed **systemic reforms** to prevent such incidents in the future.

##### US Allegations and the Global Context:

##### US Indictment:

- **Vikash Yadav** and another Indian national, **Nikhil Gupta**, were accused of conspiring to pay \$100,000 to assassinate Pannun in New York.
- Gupta was arrested in **Prague** and extradited to the US.
- Yadav, no longer affiliated with the government, also faces an **extortion case** in India.

##### Broader Context and Implications:

- The allegations follow **Canadian Prime Minister Justin Trudeau's claims** about Indian involvement in the killing of another separatist, **Hardeep Singh Nijjar**.
- While India rejected Trudeau's accusations, its **serious response to US allegations** demonstrates a contrasting approach.

##### Strategic and Political Implications:

##### Strengthening India-US Relations:

- India's careful handling of the case underscores its commitment to maintaining **strong bilateral ties** with the United States.
- Meetings with outgoing and incoming **US National Security Advisors** reflect India's intent to **insulate future engagements** from past controversies.

**Commitment to Due Process:**

- The investigation highlights India's **adherence to legal fairness**.
- By portraying the accused as a **rogue element**, India separates the individual's actions from state policy.

**Responding to Accountability Demands:**

- The committee's recommendations for **systemic reforms** emphasize India's focus on **transparency and accountability**.
- Improved **control mechanisms** aim to ensure such incidents do not recur.

**Asserting Sovereignty:**

- India's recommendation for **domestic legal action** against Yadav asserts its sovereignty.
- This move preempts any US attempts to **extradite or prosecute Yadav**, reinforcing India's jurisdiction over its citizens.

**Rebuilding Canada Relations:**

The report creates an opportunity for **future Canadian leadership** to mend relations strained by recent allegations.

**Conclusion: Navigating Complex Geopolitics**

India's calculated response to the **Pannun assassination plot** showcases its focus on:

- Balancing **international relations** with the United States and Canada.
- Ensuring **legal accountability** through thorough investigations.
- Strengthening **procedural safeguards** to address systemic gaps.

By navigating these challenges, India demonstrates its commitment to **upholding global credibility** and maintaining a responsible position in an evolving geopolitical landscape.

**TRAI Adopts Ledger Technology to Combat Spam**

**Context:** The Telecom Regulatory Authority of India (TRAI) is leveraging **distributed ledger technology (DLT)** to strengthen the fight against spam and enhance customer experience.

**Overview:**

TRAI plans to tighten regulations to ensure that commercial messages are **traceable**, thereby addressing the growing concerns of **spam messages and calls**—unwanted, unsolicited communications often used for **advertising, scams**, or other malicious activities.

**Key Concerns of Spam**

1. **Privacy Invasion:** Spam often leads to a breach of **personal privacy**, exposing sensitive information without consent.
2. **Scams and Fraud:** Many spam messages aim to deceive individuals into sharing **sensitive data** (e.g., bank details), resulting in **financial losses** and **identity theft**.
3. **Overload and Disruption:** The sheer volume of spam causes **annoyance**, disrupts daily activities, and overwhelms users.
4. **Regulatory Challenges:** Despite existing laws, **spammers** continuously evolve their tactics, making it hard to enforce regulations effectively.



5. **Lack of Awareness:** Many individuals, particularly in **rural areas**, lack knowledge of how to block or report spam, leaving them vulnerable to scams.

### Spam Regulations in India:

TRAI has implemented several measures to regulate **Unsolicited Commercial Communications (UCC)**:

- **DND Registry:** Initiated in **2007**, this registry allows telecom customers to opt-out of spam calls and messages.
- **TCCCPR 2018:** Under the **Telecom Commercial Communication Customer Preference Regulation (TCCCPR)**, telemarketers targeting DND-registered customers receive **warnings**, and repeat offenders can be **blacklisted**.
- **2024 Mandate:** TRAI directed telecom providers to integrate DND reporting into their apps for easier accessibility.

### Adopting Distributed Ledger Technology (DLT):

TRAI mandated the use of **blockchain technology** to combat spam effectively.

- **Key Features:**
  - Maintains a **constantly-updated list** of approved SMS senders.
  - Requires telcos to pre-approve **specific message formats**.
  - Ensures **immutability** of records, preventing unauthorized tampering.
- **Significance:**
  - Telcos will have a **complete record** of the source of a message before it reaches the **SMS gateway**.
  - This measure plugs a critical system flaw, preventing unauthorized entities from registering on the blockchain.

### Additional Measures to Combat Spam:

1. **Sanchar Saathi Portal**
  - Includes a reporting feature called **Chakshu**, allowing users to report **fraudulent calls and messages**.
  - **Collaboration:** Partners with law enforcement, banks, and other stakeholders to address spam.
2. **Suspicious Number Cancellation:**
  - The Department of Telecommunications (DoT) has canceled **lakhs of numbers** linked to unauthorized telemarketers and scammers.
3. **Telecom Security Operations Centre:**
  - A centralized system in **New Delhi** to monitor **suspicious internet traffic** in real-time.
4. **AI-Powered Spam Identification:**
  - Telcos like **Airtel** label suspicious calls as "**Suspected Spam**", a practice being adopted by other providers.
  - **International Call Labelling:** Telcos now identify **international calls** on smartphones.

### Benefits of the Initiative:

- Enhanced **customer safety** and **privacy protection**.
- Improved **traceability** and accountability for all commercial messages.
- A significant step toward curbing **fraudulent activities** and **spam overload**.

By implementing these stringent measures, TRAI is setting an example globally in tackling the menace of spam while leveraging cutting-edge technology like blockchain for effective regulation.

### National Broadband Mission 2.0: Transforming Digital Connectivity

**Context:** The Department of Telecommunications (DoT) recently unveiled the vision document for National Broadband Mission (NBM) 2.0, a roadmap aimed at enhancing digital connectivity across India. This initiative builds on the successes of NBM 1.0 (2019–2024) and sets ambitious targets for 2030.

#### India's Broadband Landscape:

- As of 2023, India recorded **83.22 crore broadband connections**, with:
  - 79.98 crore wireless connections.**
  - 3.23 crore wireline connections.**
- Between **2015 and 2021**, internet subscriptions grew by:
  - 200% in rural areas.**
  - 158% in urban areas.**
- NBM 1.0** played a pivotal role in building digital infrastructure, especially in rural regions, bridging the **digital divide**.



#### Types of Broadband Connections:

- Wired Broadband:** Delivered through **optical fiber cables (OFC)**.
- Wireless Broadband:** Provided via **radio links**.
- Digital Subscriber Line (DSL):** Delivered using **copper lines**.

#### NBM 2.0: Vision and Objectives

**NBM 2.0** aims to take digital connectivity in India to the next level by achieving **affordable, reliable, and high-speed broadband access** across the nation.

#### Key Objectives:

- Expanding Optical Fiber Connectivity:**
  - Extend **OFC coverage to 2.70 lakh villages by 2030**, up from the current 50,000 villages.
  - Ensure **95% network uptime** for OFC systems.
- Connecting Anchor Institutions:**
  - Provide broadband access to **90% of anchor institutions** such as **schools, primary health centers (PHCs), Anganwadi centers, and Panchayat offices**.
- Enhanced Broadband Speeds:**
  - Increase the **national average fixed broadband speed** to a minimum of **100 Mbps** by 2030.
- 5G Rollout and 6G Preparedness:**
  - Facilitate a **nationwide 5G rollout** and prepare for **6G technologies**.
- Leverage Power Sector Infrastructure:**
  - Use **Optical Ground Wire (OPGW)** from the power sector to boost connectivity for **disaster management, emergency communication, and critical situations**.

#### NBM 2.0: Potential Impact:

- Digital Inclusion:** Address the **digital divide**, ensuring equitable access to **digital resources** in rural and underserved areas.





2. **Improved Education and Healthcare:** Enable **e-learning** and **telemedicine** services through broadband access in schools and healthcare facilities.
3. **Boost to the Economy:** Digital infrastructure development will create **employment opportunities** and stimulate **economic growth** in urban and rural areas.
4. **Disaster Resilience:** Strengthened communication networks, using **OPGW**, will improve responses during **natural disasters** and emergencies.
5. **Technological Leadership:** With the adoption of **5G and 6G technologies**, India can establish itself as a global leader in **digital innovation**.

#### The Road Ahead:

1. **Affordable Broadband Services:** Ensure internet services remain **affordable** to boost adoption across all income groups.
2. **Collaboration with the Private Sector:** Partner with **private players** to speed up digital infrastructure development.
3. **Digital Literacy Initiatives:** Launch programs to enhance **digital literacy**, empowering citizens to utilize broadband effectively.
4. **Policy and Process Reforms:** Streamline policies, such as **Right of Way (RoW)** approvals, to minimize delays in infrastructure deployment.

#### Conclusion:

**National Broadband Mission 2.0** is a transformative step toward a **digitally connected India**. With a focus on **affordability**, **high-speed connectivity**, and **technological innovation**, it seeks to unlock opportunities for growth, bridge the digital divide, and position India as a global leader in the digital age.

### Status of the Smart Cities Mission

**Context:** India's **Smart Cities Mission** aims to transform urban centers into sustainable, innovative, and economically vibrant hubs, addressing the challenges of rapid urbanization.

#### Key Features:

1. **Objective:**
  - Improve urban living by providing **core infrastructure**, ensuring a **clean environment**, and enhancing the **quality of life**.
  - Drive **economic growth** and promote **sustainability** through integrated development in social, economic, physical, and institutional spheres.
2. **Operational Framework:**
  - **Selection Process:**
    - 100 cities were chosen via a **two-stage competition**.
  - **Implementation:**
    - Managed by **Special Purpose Vehicles (SPVs)** to ensure focused execution.
  - **Funding:**
    - **Centrally Sponsored Scheme** with ₹48,000 crore allocated over five years.
    - ₹100 crore per city annually from the central government, matched by states or **Urban Local Bodies (ULBs)**.





- Additional funding through **municipal bonds, public-private partnerships (PPP)**, and other government programs.
- **Timeline:**
  - Extended to **March 31, 2025**, for project completion.

### Status of the Smart Cities Mission:

#### 1. Achievements:

- Over **8,000 projects** launched with an investment of ₹1.6 lakh crore.
- As of **July 2024**:
  - **7,188 projects (90%)** completed.
  - **75% project completion in 75 cities.**
  - **17 cities** achieved 100% project completion.

#### 2. Highlights:

- Focus areas include **urban mobility, smart governance, renewable energy, water supply, and sanitation.**
- Integration of technologies such as the **Internet of Things (IoT)** and **GIS-based systems** for real-time monitoring.

### Need for Smart Cities:

#### 1. Urban Growth:

- **31% of India's population** resides in urban areas, contributing **63% of GDP** (Census 2011).
- By **2030**, urban areas are projected to house **40%** of the population, contributing **75%** of GDP.

#### 2. Sustainable Development:

- Balanced growth requires infrastructure development across physical, institutional, social, and economic domains.

### Challenges:

#### 1. Implementation Hurdles:

- **10% of projects delayed** due to legal disputes, delays in clearances, and resource allocation.

#### 2. Technological Barriers:

- Deployment of advanced technologies like **IoT** is hindered in areas lacking basic infrastructure.

#### 3. Funding and Engagement:

- Challenges in securing funding, fostering **private sector participation**, and ensuring **citizen involvement.**

#### 4. Integration Issues:

- Achieving seamless integration across diverse systems and stakeholders remains a significant challenge.

### Conclusion and Way Forward:

The **Smart Cities Mission** holds transformative potential to propel India toward becoming a **\$10 trillion economy**. Its success hinges on:

#### 1. Innovative Funding Mechanisms:

- Mobilizing resources through municipal bonds, PPPs, and international partnerships.

#### 2. Private Sector Collaboration:

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- Leveraging private expertise and investment for faster project execution.
- 3. **Citizen-Centric Policies:**
  - Ensuring public participation and addressing local needs.
- 4. **Technology and Infrastructure:**
  - Efficient use of advanced technologies to ensure long-term sustainability.

Ultimately, the success of the mission will be measured by its ability to improve urban living standards, create economic opportunities, and drive India's urban transformation. Bold action and visionary planning will shape the nation's urban future.



### From Gemini to Llama: AI Titans Transforming the Industry in 2024

**Context:** Artificial Intelligence (AI) remains at the forefront of technological innovation in 2024, with industry leaders like **Google**, **OpenAI**, **Meta**, and others unveiling groundbreaking advancements. These developments are shaping the future of AI and revolutionizing industries worldwide.

#### AI Milestones in 2024:

##### 1. Google's Gemini: A Leap Beyond Bard:

After the mixed reception of its earlier AI model, Bard, **Google** made a significant comeback with the launch of **Gemini**, establishing itself as a leader in the AI space.

- **Gemini 2.0 Flash Thinking Model:** Enhanced **reasoning abilities**, capable of outlining **thought processes** for more human-like interactions.
- **Trillium AI Accelerator Chip:** Boosted performance for AI applications, improving processing efficiency.
- **Willow Quantum Chip:** Pioneered advancements in **quantum computing**, enabling unprecedented computational power.



##### 2. OpenAI's o3 Model: A New Standard in Intelligence:

Building on its earlier iterations, OpenAI introduced **o3**, a model that excelled in complex reasoning and real-world applications.

- Outperformed competitors in tasks like **coding** and **advanced mathematics**.
- Integrated seamlessly into **Microsoft's 365 Copilot**, enhancing productivity tools with **AI-driven assistance**.

##### 3. Anthropic's Claude 3.5 Sonnet: AI with Autonomous Capabilities:

Anthropic raised the bar with **Claude 3.5**, an AI model capable of **autonomous task execution**.

- Introduced a "**Computer Use**" feature, allowing the AI to perform tasks like **typing** and **browsing**.
- Deployed **Clio**, a monitoring tool used during the **U.S. Presidential elections**, ensuring ethical and reliable AI usage.

##### 4. Mistral AI: Open-Source Innovation:

French startup **Mistral AI** focused on **open-source and customizable large language models (LLMs)**, driving accessibility and innovation.

- **Mistral 7B and Mixtral 8x7B:** Lightweight, open-weight models designed for diverse applications.
- **Mistral Large 2:** Integrated into **IBM's Watsonx**, enabling advanced AI applications in healthcare, finance, and more.
- Partnered with **Qualcomm** to integrate generative AI into **Snapdragon-powered devices**.

##### 5. Meta's Llama Models: Revolutionizing AI Accessibility:

Meta's **Llama series** continued to push the boundaries of **open-source AI** for both research and commercial use.

- **Llama 3 (April 2024):** Featured **8B and 70B parameters** with support for **multilingual capabilities** and **coding**.
- **Llama 3.1 and 3.2:** Expanded to **405B parameters**, supporting **multimodal inputs** (text and images) and optimized for **mobile devices**.
- Integrated across **Facebook**, **Instagram**, and **WhatsApp**, bringing AI to billions of users.

#### On-Device AI Integration: Smarter Everyday Tech:

2024 saw widespread **on-device AI integration**, making advanced AI accessible in consumer electronics.



- **AI Chips:** Apple's **Neural Engine**, Qualcomm's **Snapdragon AI Engine**, and Google's **Tensor Chipset** powered real-time features like **translation**, **photo enhancement**, and **augmented reality**.
- **PC AI Powerhouses:** NVIDIA, AMD, and Apple's AI chips supported **transcription**, **gaming**, and **video editing**, enhancing creative workflows and productivity.

### Additional Insights: The Bigger Picture in AI:

- **AI Democratization:** Open-source models like **Mistral** and **Llama** are making AI development more accessible, enabling innovation across smaller enterprises and startups.
- **Quantum Computing Synergy:** Innovations like Google's **Willow Quantum Chip** are laying the groundwork for integrating quantum computing with AI, promising breakthroughs in fields like **drug discovery**, **climate modeling**, and **cryptography**.
- **AI in Governance:** Tools like **Anthropic's Clio** highlight the increasing role of AI in **monitoring elections** and ensuring ethical practices in governance.

### Conclusion:

From **Google's Gemini** to **Meta's Llama**, 2024 is shaping up as a transformative year for **AI development**. With advancements in **reasoning capabilities**, **customizable models**, and **on-device integration**, these technologies are revolutionizing industries and making AI more accessible to individuals and businesses alike. The future of AI is here, and its impact is just beginning to unfold.

## Injectable Hydrogel: A Revolutionary Approach to Targeted Cancer Treatment

**Context:** Researchers from **IIT-Guwahati** and the **Bose Institute, Kolkata** have introduced a groundbreaking **injectable hydrogel** that promises to revolutionize localized cancer treatment. This innovative development holds the potential to offer highly targeted therapy with **minimal side effects** for cancer patients.



### What is Injectable Hydrogel?

This **advanced polymer-based material** is designed to act as a stable **reservoir** for **anti-cancer drugs**, gradually releasing them in a **controlled and targeted** manner.

### Key Features of the Hydrogel:

- **Controlled Drug Release:** It delivers drugs directly to **cancerous cells**, ensuring that healthy tissue is **spared** from harmful side effects.
- **Targeted Action:** The hydrogel responds to **elevated glutathione (GSH)** levels, a molecule found abundantly in **tumor cells**, ensuring drugs are released **only where needed**.
- **Localized and Efficient:** Made from ultra-short **peptides** that remain **insoluble in biological fluids**, this ensures its action stays **localized** within the tumor site.
- **Water-Based Composition:** Mimicking the **properties of living tissues**, the hydrogel is **biocompatible**, making it an ideal candidate for biomedical applications.
- **Breast Cancer Focus:** While the current research focuses on **breast cancer**, the hydrogel's **versatility** could expand its use to treat other forms of cancer in the future.

### What Makes Hydrogel Special?

Hydrogel is a **versatile, polymer-based material** that forms a **three-dimensional network**, offering numerous medical benefits.

### Key Characteristics:



- **Water Absorption:** The material is **hydrophilic**, meaning it attracts water and retains large amounts of fluids, ideal for biological environments.
- **Soft and Flexible:** It mimics the **mechanical properties** of living tissues, making it compatible for use in human bodies.
- **Customizable Properties:** Hydrogel can be engineered to either **remain stable** or **degrade over time**, depending on the medical need.
- **Biocompatible and Non-Toxic:** This makes it suitable for **drug delivery systems, tissue engineering, wound healing, and implants**.

Hydrogels are used in a variety of applications beyond cancer treatment, including:

- Wound Dressings
- Diapers (Superabsorbent Polymers)
- Agriculture (Soil Hydration)
- Cosmetics (Moisturizers and Gel-Based Products)

### Why is Injectable Hydrogel a Game-Changer in Cancer Treatment?

The **injectable hydrogel** is not just a technological breakthrough in drug delivery; it represents a **major leap forward** in the **personalized treatment** of cancer. By focusing on the **specific needs** of tumor cells, it offers a **safer and more effective alternative** to traditional treatments that often damage healthy tissues. This innovation provides the **promise of improved outcomes** with fewer side effects for patients undergoing cancer therapy.

As this research progresses, the **injectable hydrogel** could be extended to treat **various cancer types**, making it a **pivotal** development in **biomedical science and oncology**.

## DPIIT Deregisters Patent Agent for Alleged Professional Misconduct

**Context:** The Department for Promotion of Industry and Internal Trade (DPIIT) has taken a decisive step by removing a patent agent from the **Register of Patent Agents** following allegations of misconduct. This case highlights the importance of ethical practices and accountability in the field of **Intellectual Property Rights (IPR)**.

### Why is this News?

The patent agent, **Naveen Chaklan**, was found guilty of **professional negligence** by a **five-member ad-hoc committee** set up under the directive of the **Delhi High Court**. This rare move sets a precedent for stricter regulation of **IP professionals**.

Understanding Patents and Intellectual Property (IP) Rights

### What is a Patent?

A **patent** is an **intellectual property right** granting the inventor **exclusive rights** to their invention for a specified period, preventing others from using or selling it without permission.

### Types of Patents:

1. **Product Patent:** Protects the final product, ensuring exclusive rights to its production and sale.
2. **Process Patent:** Allows competitors to manufacture a similar product using a different process.

### Historical Perspective:

- In the **1970s**, India emphasized **process patents**, enabling it to become a leader in producing **generic medicines**.
- Following the **TRIPS Agreement**, India introduced **product patenting** to align with global standards.

### The Patents Act, 1970:

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**Key Features:**

- Enacted in **1972**, replacing the **Indian Patents and Designs Act, 1911**.
- Based on recommendations from the **Ayyangar Committee Report**.

**India's International Patent Commitments:**

1. **Paris Convention (1998)**: Ensures international protection of patents, trademarks, and industrial designs.
2. **Patent Cooperation Treaty (1998)**: Simplifies patent filing in multiple countries.
3. **Budapest Treaty (2001)**: Facilitates deposition of microorganisms for patent purposes.

**Recent Amendments:**

- The **Patents (Amendment) Rules, 2021** introduced key changes, such as:
  - Recognizing **educational institutions** as a distinct applicant category.
  - Offering an **80% rebate** on patent filing fees for educational institutions.

**India's National Intellectual Property Rights (IPR) Policy, 2016:****Theme:**

*"Creative India; Innovative India"*

**Objectives:**

1. **Awareness and Promotion**: Educate the public about the benefits of IPRs.
2. **Innovation**: Encourage the creation of **new intellectual properties**.
3. **Legal Modernization**: Update IPR laws to balance **creator rights** with **public interest**.
4. **Human Capital Development**: Enhance skills in **IPR teaching and research**.
5. **Efficient Administration**: Streamline IPR processes for faster service.
6. **Commercialization**: Boost economic value through **IPR monetization**.
7. **Enforcement**: Strengthen mechanisms to combat IPR violations.

**News Summary: A Landmark Case****Case Background:**

- Patent agent **Naveen Chaklan** charged Rs **51,000** in 2019 for filing and expediting a **patent application** for a sewing machine.
- The application was abandoned due to **failure to address the First Examination Report (FER)**, causing **financial and emotional distress** to the client, **Saurav Chaudhary**.
- In 2023, Chaudhary filed a writ petition seeking restoration of the patent application, prompting an investigation.

**Findings:**

- Over **60% of Chaklan's 100+ applications** were abandoned or withdrawn, pointing to **serious negligence**.
- The committee held him accountable for breaching his **fiduciary duty** and causing harm to clients.
- Chaklan defended himself, citing lack of resources as a solo practitioner, but the committee deemed his actions unacceptable.

**Actions Taken:**

1. **Deregistration**: Chaklan was removed from the **Register of Patent Agents**.
2. **Code of Conduct**: The **Controller General of Patents, Designs and Trade Marks (CGPDTM)** was directed to draft a comprehensive **Code of Conduct** for patent and trademark agents.
3. **Complaint Framework**: A formal structure for addressing grievances against IP agents must be established.

**Broader Implications of the Case:**

1. **Strengthened Accountability**:
  - Sets a benchmark for **ethical conduct** in the IP profession.



- Encourages **due diligence** and timely communication by patent agents.
- 2. **Code of Conduct:** A formalized code will ensure **better professional standards** and accountability.
- 3. **Client Protection:** Reinforces the importance of protecting **inventors' rights** against malpractice.
- 4. **Increased Awareness:** Highlights the need for inventors to stay informed about the **patent process** and their legal rights.

#### Did You Know?

- India ranked **42nd** in the **Global Innovation Index 2023**, showcasing its growing focus on innovation.
- The **TRIPS Agreement** mandates all WTO members to adopt uniform IP laws, ensuring fair competition and global trade benefits.

This case serves as a **wake-up call for patent agents**, urging them to adhere to the highest ethical standards while handling clients' intellectual property. It also underscores the government's commitment to fostering a robust and transparent **IP ecosystem** in India.

### Inter-Ministerial Committee to Frame AI Rules and Develop Guidelines

**Context:** The **Union Government** has proposed forming an **inter-ministerial committee** to enforce rules and create comprehensive **AI guidelines**, ensuring effective governance of India's evolving artificial intelligence ecosystem.

#### About the Initiative:

The **IndiaAI Mission**, under the leadership of the **Principal Scientific Advisor**, has released a report on **AI guidelines** for public feedback.

- The report suggests a **coordinated, whole-of-government approach** to manage the rapid growth and compliance requirements of the **AI sector** in India.

#### Key Highlights of the Report:

##### Principles for AI Governance:

The report proposes essential principles to guide AI systems, emphasizing:

1. **Transparency:** Ensuring access to meaningful information about the development and capabilities of AI systems.
2. **Accountability:** Holding developers and deployers of AI systems responsible for their outputs.
3. **Safety and Reliability:** Embedding robustness and security into AI systems by design.
4. **Privacy and Security:** Protecting individual data and system integrity.
5. **Fairness and Inclusion:** Promoting non-discrimination and equitable access to AI benefits.
6. **Human-Centered Values:** Ensuring AI systems operate on ethical principles and cause no harm.
7. **Sustainability:** Encouraging inclusive innovation and equitable distribution of AI's benefits.
8. **Digital-Driven Governance:** Leveraging **digital technologies** for efficient implementation of these principles.

#### Lifecycle Approach:

The report advocates for a **lifecycle approach** to AI governance, which evaluates risks and challenges during:

- Development, deployment, and diffusion stages.
- The involvement of all **AI actors** to foster a holistic ecosystem.

#### Tech-Enabled Governance:

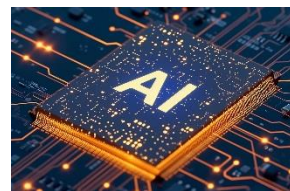
A **technology-driven regulatory framework** is proposed for effective compliance and monitoring of AI systems.

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Freedom UPSC with **Dhananjay Gautam**

Page No  
**220**







## Understanding Artificial Intelligence (AI):

**Artificial Intelligence (AI)** refers to systems designed to replicate or enhance human cognitive capabilities.

- **Applications:** From **self-driving cars** to generative tools like **ChatGPT** and **Google Bard**, AI is reshaping industries and daily life.
- **Significance:** AI has the potential to revolutionize healthcare, transportation, education, and infrastructure by improving efficiency and decision-making processes.

## Why Rules Are Essential for AI:

1. **Ethical Concerns:** AI's ability to make autonomous decisions necessitates rules to ensure its alignment with **human values** and **ethical standards**.
2. **Privacy and Security:** AI often processes vast amounts of personal data, requiring regulations to protect against misuse and ensure **data security**.
3. **Transparency:** Mandating developers to disclose algorithmic workings fosters trust and mitigates **bias or misuse**.
4. **Public Safety:** In sectors like **healthcare** and **public infrastructure**, clear rules are critical to prevent harm.
5. **Competition and Innovation:** A regulated environment promotes **responsible innovation** while discouraging monopolistic practices.

## India's Regulatory Framework on AI:

1. **Digital Personal Data Protection Act, 2023:** Addresses privacy concerns related to AI platforms by regulating data collection and usage.
2. **Global Partnership on Artificial Intelligence (GPAI):** India, as a member, hosted the 2023 GPAI Summit, highlighting global collaboration on responsible AI.
3. **#AIForAll Strategy:** Launched by **NITI Aayog**, this focuses on leveraging AI for **healthcare, agriculture, education, and smart infrastructure**.
4. **Principles for Responsible AI (2021):** An approach paper exploring ethical deployment of AI systems in India.

## Challenges in Regulating AI:

1. **Rapid Evolution:** AI's constant advancement makes it difficult to create future-proof regulations.
2. **Balancing Innovation and Safety:** Regulations must promote innovation while ensuring safety.
3. **Global Coordination:** AI regulation requires international cooperation to avoid fragmented rules.
4. **Defining AI:** The absence of a universally accepted definition complicates regulatory efforts.

## The Road Ahead:

AI is poised to transform the way we live and work, offering immense opportunities for progress while posing significant risks. To ensure its potential is harnessed responsibly:

1. **Comprehensive Regulation:** India must craft robust guidelines to govern AI ethically and effectively.
2. **Proactive Measures:** Anticipate challenges and establish safeguards to mitigate risks.
3. **Global Collaboration:** Work with international stakeholders for unified and coherent AI governance.
4. **Public Awareness:** Promote education on AI benefits and risks to empower informed decision-making.

By addressing the risks and ensuring equitable development, AI can be a force for **good**, fostering a **safer and more inclusive future**.



## ISRO's Groundbreaking Attempt at Satellite Docking in Space

**Context:** The **Indian Space Research Organisation (ISRO)** is taking a monumental step by demonstrating its first-ever **space docking mission**, named **SpaDeX (Space Docking Experiment)**. This mission aims to bring two small satellites together and dock them in space, marking a significant milestone for India's space technology capabilities.



### About the SpaDeX Mission:

The **SpaDeX mission** is a **cost-effective technology demonstration** focusing on mastering **in-space docking** techniques.

### Key Features of SpaDeX:

1. **Dual Satellite Launch:** The mission involves two small spacecraft, **SDX01 (Chaser)** and **SDX02 (Target)**, launched aboard a **PSLV rocket**.
2. **Mission Objectives:**
  - Develop and demonstrate technologies for **rendezvous, docking, and undocking** in low-Earth orbit.
  - Showcase the use of **advanced sensors** such as **Laser Range Finder, Rendezvous Sensor, and Proximity and Docking Sensor** for precise measurements.
  - Utilize a state-of-the-art **satellite navigation-based processor** to determine the **relative position and velocity** of the satellites.

### Understanding Docking:

**Docking** is the process of bringing two spacecraft together in orbit and joining them securely. It is a critical technology for:

- Building and maintaining **space stations**.
- Transporting crew and supplies for long-term missions.
- Enabling future missions to the **Moon** and beyond.

### Historical Milestones in Docking:

- **1966:** USA's **Gemini VIII** achieved the first docking with an Agena target vehicle, piloted by Neil Armstrong.
- **1967:** The **Soviet Union's Kosmos 186 and 188** demonstrated the first automated docking.
- **2011:** China's **Shenzhou 8** docked with the **Tiangong 1 space laboratory**, followed by its first **crewed docking** in 2012.

### Why Is This Mission Important for India?

1. **Advancing Space Capabilities:**
  - India plans to establish a **space station** by **2035** and conduct **lunar missions** by **2040**, requiring expertise in docking technologies.
  - The **SpaDeX mission** lays the groundwork for India's ambitious projects, including the **Bharatiya Antariksh Station (BAS)**.
2. **Chandrayaan-4 Mission:**
  - Docking will play a vital role in **transporting lunar samples**, involving multiple modules launched and assembled in orbit.
3. **Global Recognition:**
  - Success in this mission will position India as the **fourth nation**, after the **US, Russia, and China**, to achieve **in-space docking technology**.

### Challenges in Space Docking:

- **Precision Maneuvers:** Docking requires highly accurate adjustments in speed, alignment, and timing. Even minor deviations can result in failure.
- **Sensor Calibration:** Sensors need to be precisely tuned to ensure seamless rendezvous and docking.
- **Algorithm Refinement:** ISRO has postponed attempts twice to perfect the docking algorithms and sensor operations.

### Future Vision:

The successful development of docking technology unlocks immense potential for India's space ambitions:

- **Resupplying Space Stations:** Enables the delivery of essential supplies to future manned stations.
- **Refueling Spacecraft:** Extends the operational lifespan of satellites and vehicles through in-orbit refueling.
- **Autonomous Missions:** Paves the way for fully **autonomous docking**, allowing spacecraft to operate without relying on satellite navigation data.

### Conclusion:

The **SpaDeX mission** represents a giant leap forward in India's journey towards becoming a global space power. With docking technology, ISRO is not only enhancing its technological prowess but also ensuring its readiness for future missions that involve **complex space assembly** and **deep space exploration**.

## Combat Air Teaming System (CATS) Programme: Advancing India's Air Combat Capabilities

**Context:** Hindustan Aeronautics Limited (HAL) has achieved a significant milestone in its pioneering **Combat Air Teaming System (CATS)** programme by successfully completing the **engine ground run** of the **CATS-Warrior Loyal Wingman**, a full-scale demonstrator.



### What is the CATS Programme?

The **Combat Air Teaming System (CATS)** represents a transformative step in integrating **manned and unmanned combat aircraft systems**. Its primary aim is to develop advanced platforms capable of:

- **High-altitude surveillance** as atmospheric satellites.
- **Autonomous deep-penetration precision strikes** from safe standoff distances.
- Enhancing battlefield awareness and operational efficiency while minimising risks to human life.

### Key Components of the CATS Programme:

To achieve its ambitious goals, the **CATS programme** incorporates multiple platforms, each designed for a specific combat role:

#### 1. CATS-Warrior (Loyal Wingman UCAV):

- A **stealth unmanned combat aerial vehicle (UCAV)** designed to operate alongside manned fighter jets as a loyal wingman.
- Equipped with **Smart Anti-Airfield Weapons (SAAWs)** and **Next-Generation Close Combat Missiles (NG CCMs)** in internal weapon bays for enhanced strike and self-defence.
- Features stealth technology to evade enemy radars and air defence systems.
- Capable of deep penetration up to **700 km** into enemy territory for precision strikes.

#### 2. CATS-Hunter (Low-Observable Cruise Missile):

- An air-launched cruise missile designed for precision strikes deep within enemy territory.
- Comparable to the **SCALP missile** used in the Indian Air Force's Rafale jets.

### 3. ALFA-S Swarm Drones:

- Released from a **carrier pod** mounted on the mothership, these drones perform air-to-ground and air-to-air missions.
- Functions include neutralising enemy air defence systems.
- **Tejas Light Combat Aircraft (LCA)** can carry three pods (12 drones), while **Su-30MKIs** can carry up to four pods (16 drones).

### 4. CATS-Infinity Pseudo Satellite:

- A **solar-powered pseudo satellite** operating at an altitude of **70,000 feet** with an endurance of up to **90 days**.
- Acts as a bridge between satellites and UAVs for high-altitude surveillance and tracking targets.
- Features advanced sensors and **synthetic aperture radar** for intelligence gathering.
- Supports **4G and 5G communication networks**, enhancing military communication systems.

### Tejas as the Mothership:

The **Tejas Light Combat Aircraft (LCA)** serves as the central command or "mothership" for the **CATS-Warrior** and other autonomous platforms. This synergy enables the efficient coordination of multiple aerial systems, ensuring superior combat efficiency.

### Conclusion:

The **CATS programme** showcases India's leap towards **next-generation aerial warfare technology**, combining cutting-edge advancements in **autonomous systems**, **stealth capabilities**, and **high-altitude surveillance**. With platforms like **CATS-Warrior**, **CATS-Hunter**, and **Infinity Pseudo Satellite**, the programme strengthens India's position as a global leader in air combat innovation.

## Nag Mk-2 Anti-Tank Missile: A Game-Changer in Defense Technology

**Context:** Recently, the **Field Evaluation Trials** of the **Nag Mk-2 Anti-Tank Missile** were successfully completed, marking a significant milestone for India's defense capabilities. This missile, developed indigenously, is set to become a key asset in the nation's arsenal, strengthening its defense readiness.

### About the Nag Mk-2 Missile:

The **Nag Mk-2** is a **third-generation Anti-Tank Guided Missile (ATGM)** designed to provide India with enhanced precision and power in countering modern armored threats. Here are the key highlights of this cutting-edge weapon:

### Key Features of Nag Mk-2:

- **Indigenous Development:** Developed **indigenously**, the Nag Mk-2 signifies India's growing capabilities in advanced defense technologies.
- **Fire-and-Forget Technology:** It is a **fire-and-forget** missile, meaning once launched, it requires no further guidance, allowing for quick and efficient engagement of targets.
- **Lock-on After Launch (LOAL):** The missile is equipped with **lock-on after launch** capabilities, enabling it to lock onto targets after being fired, increasing its effectiveness in dynamic battlefield scenarios.
- **All-Weather Capability:** The **Nag Mk-2** is designed to function in all weather conditions, making it a reliable asset in diverse operational environments.





### Specifications and Performance:

- **Range:** While the **exact range** of the **Nag Mk-2** remains classified, it is estimated to have a range of **7 to 10 kilometers**, a significant upgrade over its predecessor, the **Nag Mk-1**, which had a range of just 4 kilometers.
- **Warhead:** The missile features a **tandem high-explosive anti-tank (HEAT) warhead**, which enhances its destructive capability, making it highly effective against modern armored vehicles.
- **Top-Attack Capability:** It also boasts **top-attack** functionality, targeting the most vulnerable part of armored vehicles, ensuring maximum damage and effectiveness against enemy tanks.

### Launch and Mobility:

- **Launch Vehicle:** The **Nag Mk-2** missile is launched from the **NAMICA** (Nag Missile Carrier), an armored vehicle based on the Indian-made **BMP-2 Sarath**.
- **Sarath:** This vehicle is based on the **Russian-origin BMP-2 system** and is equipped with amphibious capabilities, adding versatility to its operational deployment.
- **NAMICA:** It provides a **mobile and robust platform** for the Nag missile system, allowing rapid deployment across varied terrains and improving operational efficiency.

### Effectiveness Against Modern Armored Vehicles:

The **Nag Mk-2** is designed to target and neutralize **modern armored vehicles**, including those equipped with advanced defense mechanisms like **Explosive Reactive Armor (ERA)**. Its top-attack and HEAT warhead capabilities make it a formidable force on the battlefield.

### Conclusion: Strengthening India's Defense Arsenal

The successful trials of the **Nag Mk-2** mark a significant leap forward in India's defense technology. With its advanced features, increased range, and formidable effectiveness against modern armored threats, the **Nag Mk-2** is poised to become a key component of India's military strength. The missile's versatility and power ensure that India is well-prepared to face evolving defense challenges.

## Bhargavastra: India's Revolutionary Counter-Swarm Drone Micro-Missile System

**Context:** India has successfully tested the **Bhargavastra**, a cutting-edge **micro-missile system** designed to counter the emerging threat of **swarm drones**. This indigenous defense technology marks a significant advancement in the country's **military capabilities**, especially in countering aerial threats posed by drones.



### What is Bhargavastra?

The **Bhargavastra** is India's **first indigenous micro-missile system**, specifically engineered to neutralize the growing menace of **swarm drones**. Developed by **Economic Explosives Ltd**, this advanced system is designed for **quick deployment on mobile platforms**, enabling it to target aerial threats with remarkable precision.

- **Range:** Capable of hitting targets over **2.5 kilometers** away.
- **Detection:** The system can detect even small incoming flying machines at distances over **6 kilometers**.
- **Micro Munitions:** It uses **micro munitions** that are **guided** towards the threat to ensure accurate strikes.
- **Capacity:** The Bhargavastra can simultaneously launch over **64 micro missiles** to counter multiple threats.
- **Versatility:** Designed to operate in **all terrains**, including **high-altitude areas**, making it suitable for various military environments.
- **Use in Army Air Defence:** This system meets the specific requirements of the **Army Air Defence** and is the first **counter-drone system** utilizing **micro missiles**.

### What Are Swarm Drones?

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The term **SWARM** stands for “**Smart War-Fighting Array of Reconfigured Modules.**” Drone swarm technologies involve the coordination of multiple drones—ranging from a few to potentially thousands—that work together to accomplish missions with minimal human oversight.

### Capabilities of Drone Swarms:

- **Cooperative Missions:** Drone swarms can perform tasks such as **wildfire control**, **damage assessment**, and **fire suppression** efficiently by collaborating without the need for constant human control.
- **Robustness and Efficiency:** Swarms are more effective than individual drones, as they can perform various tasks simultaneously and continue operating even if some drones malfunction or become inoperable.
- **Advanced Technology:** These swarms use sophisticated **computer algorithms**, **local sensing**, and **communication technologies** to synchronize their movements and achieve shared objectives.
- **Methods of Control:** Swarms can operate with several command structures, including:
  - **Pre-programmed missions** with defined flight paths.
  - **Centralized control** from a ground station or a leading drone.
  - **Distributed control**, where drones communicate and collaborate autonomously based on shared information.

### Why Bhargavastra Matters:

With the rise of **swarm drone technologies**, which can overwhelm traditional defense systems, the **Bhargavastra** provides a critical defense mechanism for India’s military forces. By offering the ability to quickly detect, engage, and neutralize **drone swarms**, it enhances **air defense capabilities** and helps protect **strategic assets** from advanced aerial threats.

This system underscores India’s commitment to building **indigenous defense solutions** and strengthening its ability to counter modern warfare challenges effectively.

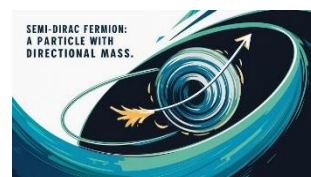
## Discovery of Semi-Dirac Fermions: A Breakthrough in Physics

**Context:** Physicists have proposed the existence of an extraordinary particle called the **Semi-Dirac Fermion**, unveiling a new realm of particle behavior.

### What is a Semi-Dirac Fermion?

The **Semi-Dirac Fermion** is a **quasiparticle** with unique properties:

- It exhibits **dual behavior**, acting **massless in one direction** while having **mass in another direction**.
- This quasiparticle was discovered in **zirconium silicon sulfide**, a crystalline material.
- The phenomenon is driven by the particle’s energy being almost entirely derived from its **motion**, making it behave as **pure energy traveling at the speed of light** in certain directions.



### Understanding Quasiparticles:

- **Quasiparticles** are not actual particles but represent the **collective behavior of multiple particles** in a system.
- They are theoretical constructs used to simplify the understanding of complex particle interactions.
- A **Semi-Dirac Fermion** is one such quasiparticle with highly unusual and fascinating properties.

### Classification of Particles:

#### 1. Elementary Particles:

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- These are the most **fundamental building blocks** of matter.
- Examples include **quarks, leptons, and gauge bosons**.

## 2. Composite Particles:

- These particles are formed by combining **elementary particles**.

Common examples are **protons** and **neutrons**, which are made of quarks.

## Particle Fundamentals:

Particles are classified into two main categories:

### 1. Fermions:

- **Matter-forming particles** with **half-integer spins** (e.g., **electrons, protons, and neutrons**).
- Fermions follow the **Pauli Exclusion Principle**, meaning no two fermions can occupy the same quantum state simultaneously.

### 2. Bosons:

- **Force-carrier particles** with **integer spins**.
- They mediate fundamental forces of nature, such as:
  - **Photons** for electromagnetic force.
  - **Gluons** for strong nuclear force.
  - **Gravitons** (theorized) for gravitational force.

## Significance of the Discovery:

The discovery of **Semi-Dirac Fermions** opens up new avenues in quantum mechanics and material science. These particles could potentially:

- Revolutionize **high-speed energy transfer systems**.
- Provide deeper insights into **quantum material properties**.
- Enable advancements in **next-generation electronics** and **quantum computing**.

## Conclusion:

The **Semi-Dirac Fermion** represents an exciting breakthrough in physics, showcasing how fundamental research continues to unveil new aspects of the universe. Its dual nature as both **massless and massive** in different directions underscores the complexities of particle behavior and promises to inspire further exploration into the quantum realm.

## Third Launch Pad at Satish Dhawan Space Centre: A Major Boost for India's Space Missions

**Context:** The **Union Cabinet**, chaired by **Prime Minister Narendra Modi**, has approved the establishment of the **Third Launch Pad (TLP)** at the **Satish Dhawan Space Centre (SDSC)** in Sriharikota, Andhra Pradesh.



### What is a Launch Pad?

A **launch pad** is a designated platform used for launching rockets or space vehicles into orbit.

- India currently operates two launch pads:
  - **First Launch Pad (FLP):** Operational for over 30 years, supporting **PSLV** and **SSLV** launches.
  - **Second Launch Pad (SLP):** Active for 20 years, handling **GSLV**, **LVM3**, and preparations for the **Gaganyaan** human spaceflight mission.

### Third Launch Pad (TLP): A New Milestone:

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The upcoming **Third Launch Pad (TLP)** is designed to:

- Support **Next Generation Launch Vehicles (NGLV)**.
- Facilitate **LVM3 launches** with semi-cryogenic stages.
- Accommodate **scaled-up configurations** of NGLVs.
- Serve as a **standby** for SLP, ensuring uninterrupted operations.

#### Key Features of TLP

- **Industry Participation:** The project will leverage ISRO's expertise while encouraging private sector involvement.
- **Timeline:** Targeted for completion within **48 months (4 years)**.
- **Cost:** Total expenditure is estimated at **₹3,984.86 crore**.

#### Benefits of TLP:

- **Higher Launch Capacity:** Enables increased launch frequencies for national and international missions.
- **Support for Human Spaceflight:** Plays a pivotal role in upcoming human space exploration missions.
- **Backup Facility:** Acts as a reliable standby for SLP.
- **Future-Ready Infrastructure:** Designed to meet India's space transportation needs for the next 25-30 years.

#### Satish Dhawan Space Centre (SDSC): India's Gateway to Space

##### Location:

- Situated in **Sriharikota, Andhra Pradesh**, between **Pulicat Lake** and the **Bay of Bengal**.
- Chosen for its **East Coast location**, which optimizes rocket launches eastward, leveraging Earth's rotation.
- Its proximity to the **equator** enhances the efficiency of geostationary satellite launches.

##### History:

- **Renamed in 2002** to honor **Prof. Satish Dhawan**, a visionary leader in India's space program.
- Became operational on **October 9, 1971**, with the launch of **Rohini-125**, a sounding rocket.

##### Significance:

- Provides **world-class launch infrastructure** for satellite and rocket missions.
- Plays a critical role in ISRO's achievements, from **telecommunication satellites (INSAT)** to **remote sensing satellites (IRS)**.

#### Future Vision for India's Space Program:

India's expanded space ambitions include:

- **Bharatiya Antariksh Station (BAS)** by **2035**.
- **Indian Crewed Lunar Landing** by **2040**. To achieve these goals, India needs:
- **Advanced launch vehicles** with heavier payload capabilities.
- **TLP** to accommodate the demands of future missions.

#### Do You Know?

- **Satish Dhawan**, born in **Srinagar**, was a celebrated **Indian rocket scientist**, often called the '**Father of Experimental Fluid Dynamics**' in India.
- He succeeded **Vikram Sarabhai** as ISRO Chairman in **1972**.
- Under his leadership, ISRO developed operational systems like **INSAT**, **IRS**, and **PSLV**, propelling India into the ranks of space-faring nations.



The establishment of the **Third Launch Pad** marks a significant step toward solidifying India's position as a leader in space exploration and technology.

### Cabinet Approves Refarming of 687 MHz Spectrum for Mobile Services in India

**Context:** The recent decision by the Union Cabinet to refarm 687 MHz of spectrum marks a significant step toward meeting India's growing demand for mobile services and advanced connectivity solutions.

#### Why in News?

The **Union Cabinet** has approved the **refarming of 687 MHz spectrum**, increasing the total available spectrum to **1,587 MHz**. Of this, **320 MHz will be released immediately**, while the remaining will be released by **2028-29**.



- **Key Contributors:** The reformed spectrum primarily comes from the **Ministry of Defence** and **ISRO**.
- **Future Requirements:** Union Telecom Minister highlighted that by 2030, mobile services in India will require **2,000 MHz of spectrum**, leaving a gap of **1,100 MHz** from current availability.
- **Purpose:** This move aligns with the demand for efficient use of **mid-band spectrum** (1,000–6,000 MHz), crucial for 4G and 5G connectivity.

#### Understanding Airwaves/Spectrum:

##### What are Airwaves?

Airwaves refer to **radio frequencies** within the **electromagnetic spectrum** used for wireless communication, including mobile services, broadcasting, and more. The government regulates, manages, and auctions these airwaves to operators.

##### Types of Spectrum Bands:

##### 1. Low-Band Spectrum (<1 GHz):

- Examples: **600 MHz, 700 MHz, 800 MHz, 900 MHz**.
- **Advantages:**
  - Wide coverage over long distances.
  - Effective for in-building penetration.
- **Usage:** Ideal for **commercial mobile services** and **broadcasting**.

##### 2. Mid-Band Spectrum (1 GHz–6 GHz):

- Examples: **1800 MHz, 2100 MHz, 2300 MHz**.
- **Advantages:**
  - Balances **coverage** and **data capacity** over significant distances.
- **Usage:** Vital for modern telecom services, including **4G** and **5G**.

##### 3. High-Band Spectrum (24 GHz–40 GHz):

- Also known as the **millimeter-wave spectrum**.
- **Advantages:**
  - Supports ultra-high-speed networks over short distances.

##### Challenges:

- Susceptible to interference from dense objects.



### Spectrum Needs for Telecom Companies:

1. **Optimal Range:** The **400 MHz–4 GHz** range is deemed most suitable for telecom services by the GSM Association.
2. **Frequency Bands in India:**
  - **2G:** 900 MHz, 1800 MHz.
  - **3G:** 900 MHz, 2100 MHz.
  - **4G:** 850 MHz, 1800 MHz, 2300 MHz, 2500 MHz.
  - **5G:** 700 MHz, 3.5 GHz.
3. **Key Bands:**
  - **900 MHz:** Widely used for GSM voice calls and 4G broadband services.
  - **1800 MHz:** Essential for GSM services and a core band for **4G LTE**.

### Spectrum Refarming:

What is Spectrum Refarming?

**Spectrum refarming** is the process of reallocating spectrum bands from older technologies (e.g., 2G) to newer, more efficient technologies like **4G** or **5G**.

- Example: Allocating a portion of the **900 MHz band** previously used for **2G services** to LTE (4G) for meeting higher data demand.

### Why is Refarming Important?

- **Efficient Utilization:** Ensures better use of the **scarce spectrum resource** amidst rising demand.
- **Network Modernization:** Enables service providers to transition from **legacy networks** to advanced networks.
- **Support for Future Technologies:** Critical for addressing the growing demand for **mobile broadband** and **5G services**.

### Benefits of Spectrum Refarming

- **Increased Network Capacity:** Accommodates more users and higher data speeds.
- **Improved Network Performance:** Delivers superior quality of service.
- **Cost-Effectiveness:** Eliminates the need to purchase additional spectrum for upgrades.

### Challenges of Spectrum Refarming:

1. **Service Continuity:** Ensuring uninterrupted services during the transition.
2. **Device Compatibility:** Older devices may not support reallocated spectrum.
3. **Channel Interference:** Avoiding overlaps between new and old frequency bands.
4. **Contiguous Spectrum:** Adequate contiguous blocks are essential for operating multiple technologies.

### LID-568: A Black Hole That Defies Astrophysical Norms

**Conext:** A team of international researchers using NASA's **James Webb Space Telescope (JWST)** and the **Chandra X-ray Observatory** has uncovered an extraordinary black hole known as **LID-568**. This discovery challenges established **astrophysical theories** and provides groundbreaking insights into the **formation** and **rapid growth** of **supermassive black holes**.





### What is LID-568?

**LID-568** is a **low-mass supermassive black hole** that existed just **5 billion years** after the **Big Bang**. Discovered through complementary observations from JWST and Chandra, this black hole is feeding on surrounding matter at a rate that far exceeds the established theoretical limit known as the **Eddington limit**—by nearly **40 times**.

This unusual behavior suggests a **faster growth mechanism** for black holes than previously thought possible, pushing LID-568 into the category of **super-Eddington accretion**.

### What is the Eddington Limit?

The **Eddington limit**, named after **Sir Arthur Eddington**, represents the theoretical maximum luminosity a star or accretion disk can achieve. At this limit, the **outward radiation pressure** from the object balances the **inward gravitational force**, preventing the further accretion of matter.

If an object exceeds this limit, it generates excessive **radiation pressure**, which could potentially blow away the outer layers of the star or accretion disk, ensuring a self-regulating mechanism to maintain stability.

### Super-Eddington Accretion: A New Frontier

When an object, such as a **black hole**, exceeds the **Eddington limit** and accretes matter at an **unprecedented rate**, it is said to be in a **super-Eddington accretion** phase. In this state, the object emits more **luminosity** than the theoretical Eddington limit, challenging the traditional models of **radiation pressure balance**.

The discovery of **LID-568** demonstrates **super-Eddington accretion** at a level previously thought impossible. At just **1.5 billion years** after the Big Bang, LID-568 was consuming material at over **40 times** the Eddington limit, offering a glimpse into how **supermassive black holes** grew rapidly in the early universe.

### Key Concepts of Black Holes:

- **Black Holes:** A black hole is a region in space where gravity is so intense that even light cannot escape. They typically form when massive stars collapse under their own gravity after exhausting their nuclear fuel.
- **Event Horizon:** The **event horizon** marks the boundary of a black hole. Once matter or light crosses this threshold, it cannot escape and is inevitably pulled towards the singularity.
- **Singularity:** At the core of a black hole lies the **singularity**, a point where the gravitational force is infinite, and the laws of physics break down.
- **Accretion Disk:** An **accretion disk** is a disk-like structure formed by gas and dust spiraling into the black hole. The material heats up due to friction, emitting **radiation** that can be detected in **X-rays**.
- **Spaghettification:** As objects approach a black hole, they experience extreme tidal forces that stretch and elongate them, a phenomenon known as **spaghettification**.
- **Supermassive Black Holes:** These black holes, like **Sagittarius A\*** at the center of the **Milky Way**, can grow to billions of times the mass of the Sun.

### The Role of the Chandra X-ray Observatory:

The **Chandra X-ray Observatory** played a crucial role in identifying **LID-568**, detecting its exceptional brightness in **X-rays**, even though it was invisible in **optical** and **near-infrared wavelengths**. The black hole's remarkable X-ray emissions provided key insights into its behavior and growth patterns.

### Why This Discovery Matters:

The discovery of **LID-568** opens up new possibilities in our understanding of black hole growth. It not only challenges the **Eddington limit** but also sheds light on how **supermassive black holes** can grow so rapidly in the early universe. As astrophysics continues to explore the mysteries of black holes, discoveries like LID-568 could revolutionize our understanding of the **cosmic evolution** and the **mechanisms driving black hole formation**.



## ISRO's Historic 100th Launch from Sriharikota

**Context:** The Indian Space Research Organisation (ISRO) successfully marked its **100th launch** from the Satish Dhawan Space Centre, Sriharikota, Andhra Pradesh, by placing the **NVS-02 satellite** into **Geosynchronous Transfer Orbit (GTO)** using the **GSLV-F15** launch vehicle.



### GSLV-F15: The Launch Vehicle

- **Three-Stage Rocket:** The **Geosynchronous Satellite Launch Vehicle (GSLV-F15)** is a **three-stage launch vehicle**, featuring a **CUS 15 cryogenic engine** in its **third stage**.
- **Payload:** The mission carried **NVS-02**, the second satellite in the **NVS series**, which is part of India's **Navigation with Indian Constellation (NavIC)** system.

### NavIC: India's Own Navigation System

#### What is NavIC?

**NavIC (Navigation with Indian Constellation)** is India's **regional navigation satellite system**, previously known as the **Indian Regional Navigation Satellite System (IRNSS)**, developed by **ISRO**.

#### NavIC Network

- The system consists of a **constellation of 7 satellites**.
- **3 satellites** are placed in **geostationary orbit**, while **4 satellites** are positioned in **inclined geosynchronous orbit**.

#### NavIC Services

- **Standard Position Service (SPS):** Available for **civilian users**.
- **Restricted Service (RS):** Dedicated for **strategic applications**.

#### Coverage & Accuracy

- **Coverage:** India and regions extending up to **1,500 km beyond** its boundaries.
- **Accuracy:**
  - **Positioning Accuracy:** Better than **20 meters**.
  - **Timing Accuracy:** Better than **40 nanoseconds**.

#### Interoperability with Global Systems

- NavIC's **SPS signals** are **interoperable** with other **Global Navigation Satellite Systems (GNSS)** like:
  - **GPS (USA)**
  - **GLONASS (Russia)**
  - **Galileo (European Union)**
  - **BeiDou (China)**

#### About ISRO: India's Space Pioneer

- **Established:** August 15, 1969



- **Origin:** Initially founded as the **Indian National Committee for Space Research (INCOSPAR)** in 1962, under the vision of **Dr. Vikram Sarabhai**.
- **Headquarters:** Bengaluru
- **Mission:** To develop and apply **space technology** for India's progress.
- **First Launch:** The **first experimental flight of SLV-3** (carrying the **Rohini Technology Payload**) was launched in **1979** under the leadership of **Dr. A.P.J. Abdul Kalam**.

### India's Own AI Revolution: Developing a Homegrown Large Language Model (LLM)

**Context:** The **Indian government** has embarked on an ambitious mission to develop its own **Large Language Model (LLM)** as part of the **₹10,370 crore IndiaAI Mission**. This initiative aims to build a **homegrown AI ecosystem** tailored to India's **diverse languages, culture, and needs**.

#### Key Highlights of India's AI LLM Project:

##### 1. Indigenous AI Model Development:

- The project focuses on creating an **India-specific AI system** that truly represents the country's **linguistic and cultural diversity**.
- The development of the **foundational model** is expected to take **4-8 months**.
- The **government's AI compute facility** will be among the **most cost-effective** globally.

##### 2. Infrastructure & GPU Supply:

- **10 companies** have been selected to supply **18,693 high-end GPUs (Graphics Processing Units)**, which are **crucial for training AI models**.
- GPUs are used for **large-scale data processing, machine learning, and deep learning** applications.
- Plans are in place to set up **AI data centers in Odisha**, fostering **AI-driven research and innovation**.
- By making **high-performance GPUs available**, students and researchers will have the tools to **develop large-scale AI models** rather than working in **fragmented, ad-hoc setups**.



#### IndiaAI Mission: Transforming AI Development:

##### Key Initiatives Under IndiaAI Mission:

Over the next five years, the mission will support:

- **IndiaAI Compute Capacity**
- **IndiaAI Innovation Centre (IAIC)**
- **IndiaAI Datasets Platform**
- **IndiaAI Application Development Initiative**
- **IndiaAI FutureSkills Program**
- **IndiaAI Startup Financing**
- **Safe & Trusted AI Framework**

#### Objective:

The mission aims to:

- Foster **India's leadership in AI globally**.

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- Promote **technological self-reliance**.
- Ensure **ethical and responsible AI deployment**.
- Make **AI benefits accessible** across all sections of society.

### What Are Large Language Models (LLMs)?

LLMs are **advanced AI models** designed to **understand and generate human language** using **deep learning techniques**.

### Applications of LLMs:

- **Text Generation**
- **Language Translation**
- **Summarization & Content Creation**
- **Conversational AI (Chatbots, Virtual Assistants)**

### Why India Needs Its Own AI Model?

1. **Reducing Dependence on Foreign AI:** Developing an **indigenous AI model** will help India **reduce reliance on foreign tech** and boost **self-sufficiency**.
2. **Enhancing Data Security & Privacy:** A **domestically built AI** ensures **better control over data**, minimizing risks associated with **data privacy and misuse**.
3. **Supporting India's Linguistic Diversity:** The LLM will be **designed to support multiple Indian languages**, ensuring **inclusivity and accessibility**.
4. **Eliminating Biases in AI:** India's AI model will be trained to **reflect the country's true diversity**, eliminating **cultural or ideological biases** found in foreign AI systems.

### Conclusion:

India's move to develop its **own AI-powered Large Language Model** marks a **game-changing shift** in its **technological landscape**. With **cutting-edge infrastructure**, **government support**, and a **focus on innovation**, this initiative will position India as a **global leader in AI**, driving **economic growth**, **digital transformation**, and **technological independence**.

## Liquid Propulsion Systems of ISRO

**Context:** Recently, **ISRO appointed M. Mohan** as the **Director of the Liquid Propulsion Systems Centre (LPSC)** in **Thiruvananthapuram**.

### Understanding Liquid Propulsion Systems:

Liquid propulsion systems utilize **liquid propellants**, such as **Liquid Oxygen (LOX)** and **Liquid Hydrogen (LH<sub>2</sub>)**, to produce **thrust**. These systems offer several advantages over solid propulsion, including:

- **Higher efficiency**
- **Better controllability**
- **Capability to restart multiple times**

### ISRO's Liquid Propulsion Systems Centre (LPSC):

The **LPSC** is a key **ISRO facility** dedicated to the **design, development, and implementation** of liquid propulsion stages for **launch vehicles**. It operates through two major centers:

- **Thiruvananthapuram (Valiamala)** – Focuses on **rocket propulsion**
- **Bengaluru** – Specializes in **satellite propulsion systems**





## Recent Developments in Liquid Propulsion:

### 1. Gaganyaan Mission:

- ISRO has incorporated **advanced liquid propulsion** in the **Crew Module** for the first **uncrewed mission** of **Gaganyaan**.
- The **Crew Module Propulsion System (CMPS)** is a **bi-propellant-based Reaction Control System (RCS)** that ensures **precise three-axis control (pitch, yaw, and roll)** during **descent and re-entry**.

### 2. Cryogenic Upper Stage for GSLV:

- ISRO has **indigenously developed** a **cryogenic upper stage** for the **Geosynchronous Satellite Launch Vehicle (GSLV)**.
- This development has significantly **boosted India's capability** to launch **heavier payloads into space**.

### 3. Satellite Propulsion Systems:

- The **LPSC** is also responsible for the development of **propulsion systems for satellites**.
- This includes **monopropellant thrusters** and **components for satellite control and maneuvering**.

## Conclusion:

India's advancements in **liquid propulsion technology** have bolstered its **space exploration** capabilities, making ISRO a global leader in **rocket and satellite propulsion**. The **LPSC** continues to play a pivotal role in enhancing **India's space missions** with cutting-edge **propulsion technologies**.

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### Controversy Over Shivaji Statue Installation at Pangong Lake Bank

**Context:** The **Indian Army** has recently installed a statue of **Chhatrapati Shivaji Maharaj** on the banks of **Pangong Tso** in eastern Ladakh. However, the installation has sparked debates about its relevance to the region's culture and history.

#### The Controversy Explained:

##### Criticism Over Relevance:

- Opponents argue that **Shivaji's legacy** holds no connection to **Ladakh's history or culture**.
- Historical figures with ties to Ladakh, such as **Zorawar Singh**, **Khree Sultan Cho**, **Ali Sher Khan Anchen**, and **Seenge Namgyal**, have been suggested as more appropriate choices.



##### Local Sentiments:

- There is a belief that the statue disregards the **rich local history** and the contributions of Ladakh's own heroes.

#### About Pangong Tso:

##### Geographical Significance:

- **Pangong Tso** is a **high-altitude lake** situated in the **Himalayas**, spanning the **India-China border**.
- The lake lies at an altitude of approximately **4,350 meters above sea level**, making it the **highest saltwater lake in the world**.

##### Key Features:

- Nearly **two-thirds of the lake** is controlled by **China**, while **45 km** falls under Indian control.
- Known for its **crystal-clear yet brackish water**, the lake is undrinkable.
- Its unique ability to **change colors**, appearing blue, green, or even red at times, adds to its allure.

#### Who Was Chhatrapati Shivaji Maharaj?

##### A Legendary Maratha Leader:

- Born in **1630** at **Shivneri Fort**, Maharashtra, Shivaji established the **Maratha Empire** in the 17th century.
- Known for promoting **Swarajya (self-rule)** and resistance to **Mughal dominance**.

##### Key Contributions:

- Master of **guerrilla warfare** and builder of a formidable navy.
- Captured or constructed over **300 forts**, including **Raigad** and **Sindhudurg**.
- Introduced an efficient **revenue and justice system** and promoted **secularism**, appointing people of all religions in his administration.

#### Who Was Zorawar Singh?

##### A Hero of Ladakh:

- **Zorawar Singh Kahluria**, a **Dogra military general**, played a pivotal role in Ladakh's history during the 19th century.
- Known for his military genius, he successfully **annexed Ladakh** into the **Jammu and Kashmir Kingdom**.

##### Symbol of Bravery:

- Zorawar Singh's campaigns symbolize **valor and strategic brilliance**, making him a revered figure in the region.



**Conclusion:**

While **Shivaji Maharaj** is undoubtedly an iconic national leader, the **installation of his statue at Pangong Tso** has raised questions about cultural relevance and regional representation. Many believe that honoring **local historical figures** like **Zorawar Singh** would have been a more fitting tribute to Ladakh's heritage. This debate highlights the importance of aligning such initiatives with the **local context and sentiments** to preserve the region's rich history.

**Shivaji I: The Founder of the Maratha Empire:**

**Shivaji I** (*Shivaji Shahaji Bhonsale*, pronounced 19 February 1630 – 3 April 1680) was a prominent **Indian ruler** and a key figure in Indian history. He hailed from the **Bhonsle dynasty** and established a **powerful Maratha kingdom** that eventually formed the basis of the **Maratha Confederacy**.

**Early Life and Background:**

- Shivaji was born on **19 February 1630**, at **Shivneri Fort**, near Pune in **Maharashtra**.
- He was the son of **Shahaji Bhonsale**, a Maratha general, and **Jijabai**, whose teachings deeply influenced him.

**Establishment of the Maratha Empire:**

- Shivaji carved out his independent kingdom by challenging the dominance of the **Sultanate of Bijapur** and later resisting the mighty **Mughal Empire**.
- His kingdom laid the foundation for what became the **Maratha Confederacy**, a dominant power in India in the 18th century.

**Legacy:**

**Shivaji's achievements extend beyond military conquests. He is celebrated as:**

- A Visionary Leader:** Focused on **Swarajya** (self-rule) and preserving the cultural identity of his people.
- A Military Genius:** Known for his innovative use of **guerrilla warfare** tactics.
- A Naval Pioneer:** Built a strong **Maratha navy**, which was rare for Indian rulers of his time.
- An Administrative Reformer:** Established an efficient revenue system and promoted **secularism**, employing people of all faiths in his administration.

**Death and Legacy:**

Shivaji passed away on **3 April 1680**, but his legacy endured. His life and work continue to inspire Indians, symbolizing resistance against oppression and the pursuit of self-rule.

**Tamil Nadu Announces \$1 Million Prize to Decode Indus Valley Script**

**Context:** The **Tamil Nadu Chief Minister** has unveiled a **\$1 million reward** for experts and organizations that successfully **decipher the ancient script** of the **Indus Valley Civilization (IVC)**. This announcement reflects the state's commitment to exploring and preserving India's rich historical and cultural heritage.

**Understanding the Indus Valley Script:****Key Characteristics:**

- Ancient Origins:** Among the oldest and most enigmatic writing systems, dating back to the Indus Valley Civilization.
- Pictographic Symbols:** The script includes over **400 unique signs**, featuring pictorial representations of humans, animals, plants, and geometric patterns.



- **Media of Writing:** Found on seals, pottery, tools, and tablets, the inscriptions are often short, typically **5–6 characters** long.
- **Logo-Syllabic Nature:** The script likely combines **logograms** (symbols for words or ideas) with **syllables**, making it complex.
- **Direction of Writing:** Most inscriptions are written **right to left**, with some evidence suggesting **boustrophedon style** (alternating direction).
- **Challenges in Decipherment:** The lack of a **bilingual text** like the Rosetta Stone and the unknown language behind the script, possibly **Dravidian or proto-Dravidian**, have hindered efforts to decode it.

### Why Decipher the Indus Script?

#### Unlocking Ancient History:

Decoding the script could reveal crucial details about the **social structure**, **economy**, and **daily life** of one of the world's first urban civilizations.

#### Religious Insights:

Understanding the script may shed light on early **religious practices** and beliefs.

- **The Pashupati Seal:** Suggests links to early forms of **Shiva worship**, fire rituals, and other traditions that later influenced **Vedic and Hindu practices**.

#### Linguistic Evolution:

The script might hold the key to understanding the linguistic roots of **Dravidian languages** and their relationship with other ancient language families.

Indus Valley Civilization: A Glimpse into the Past

#### Overview:

- Also known as the **Harappan Civilization**, it flourished from **3300 to 1300 BCE** across present-day **Pakistan** and **northwestern India**.
- Discovered in 1924 by **John Marshall**, it stands alongside **Egypt** and **Mesopotamia** as one of the earliest urban civilizations.

#### Urban Sophistication:

- **Planned Cities:** Harappa and Mohenjo-Daro showcased advanced urban design with **grid-like streets**, **drainage systems**, and **public baths**.
- **Craftsmanship:** Harappans excelled in **bead-making**, **pottery**, and **metallurgy**, and engaged in extensive trade with Mesopotamia.

#### Decline of Civilization:

- Around **1900 BCE**, the civilization faced a decline, attributed to **environmental changes**, **river shifts**, and possible **internal conflicts**.

#### A Step Toward Preserving Heritage:

Tamil Nadu's **\$1 million challenge** offers a unique opportunity to decode the **Indus script**, bridging the gap between ancient history and modern knowledge. Successfully deciphering it could revolutionize our understanding of **India's ancient civilization**, influencing **global historical narratives** and affirming India's legacy as a cradle of advanced human civilization.



## Twigstats Unveils High-Resolution Genomic History of Early Medieval Europe

**Context:** A groundbreaking study published in **Nature** leveraged the innovative tool **Twigstats** to analyze **ancient genomes** from Europe, offering unprecedented insights into the **genomic history** of the early medieval period. This research marks a significant step in reconstructing the population dynamics and cultural transitions of the era.



### Exploring Ancient Genetic Material:

Prehistoric burial sites, including **ceremonial burials**, **mass grave mounds**, and **war graves**, house invaluable ancient DNA (**aDNA**) that sheds light on:

- **Population expansions** and replacements.
- **Admixture events** and cultural transitions.
- Historical **migrations** and interactions between ancient communities.

### What is Twigstats?

**Twigstats** is a cutting-edge, **time-stratified ancestry analysis tool** designed to enhance genetic history research. It stands out for its ability to analyze genetic data with **high precision**, using advanced computational techniques.

#### Key Features:

- **Statistical Innovation:** Utilizes the programming languages **R** and **C++** for robust analysis.
- **Focused Insights:** Targets **recent mutations**, which provide clearer details about specific historical periods.
- **Improved Resolution:** Overcomes the limitations of traditional methods by offering a more refined understanding of ancient population dynamics.

### Traditional Genetic Analysis Techniques:

1. **Single Nucleotide Polymorphisms (SNPs):**
  - SNPs represent **genetic variations** commonly used in reconstructing histories.
  - Limitations: Require **high-quality DNA samples** and struggle to distinguish closely related groups.
2. **Haplotype and Rare Variant Analysis:**
  - Analyzes **shared DNA segments (haplotypes)** and rare genetic variations.
  - Advantage: Provides **higher resolution** than SNPs alone.
3. **Genealogical Tree Inference Methods:**
  - Builds genealogical trees from **modern and ancient genomes**, capturing **time-specific genetic structures** effectively.

### Challenges in Genetic Ancestry Studies:

1. **Statistical Similarity:**
  - Ancient populations often appear statistically similar, making differentiation challenging.
2. **Sample Size and Quality:**
  - **Ancient genomes** generally have lower sequencing quality compared to medieval or modern samples.
3. **Gene Flow:**
  - The continuous **gene flow** between ancient and modern populations complicates ancestry tracing, creating overlaps in genetic data.

### India's Genetic History: A Case Study:



A 2009 study by the Broad Institute and CSIR-Centre for Cellular and Molecular Biology, Hyderabad, examined Indian genetic history and revealed:

1. **Ancestral North Indians (ANI):**
  - Linked to **Central Asia, Europe, and the Middle East.**
2. **Ancestral South Indians (ASI):**
  - Identified as a **distinct group**, separate from ANI populations.

This study highlighted the **rich diversity** and complex admixture events in India's genetic history.

#### Significance of the Study:

1. **Refining Population History:** The integration of **Twigstats** with **genetic, archaeological, and historical data** reveals how **cultural shifts** often align with **genetic changes**.
2. **High-Resolution Insights:**
  - Offers a clearer understanding of the processes shaping ancient populations.
  - Enables **global reconstructions** of human ancestry with exceptional detail.
3. **Innovative Applications:**
  - Twigstats' methodology has applications beyond Europe, providing a framework for studying other regions with **ancient genetic materials**.

**Conclusion:** The use of **Twigstats** exemplifies the transformative potential of **innovative genomic tools** in uncovering the intricate history of early medieval populations. By correlating **genetic evidence** with **archaeological and historical data**, this research not only enriches our understanding of ancient ancestry but also lays the groundwork for future global studies into **genetic and cultural evolution**.

## Gen Beta is Here: Understanding Generations and Their Unique Characteristics

**Context:** A generational shift is upon us. Starting from **January 1, 2025**, children born until **December 31, 2039**, will belong to a new era: **Generation Beta**. This cohort follows the **Alpha Generation**, marking a continuation of evolving societal norms and technological advancements.



#### What is Generation Beta (2025–2039)?

- **Successors to Generation Alpha:** Generation Beta will follow **Gen Alpha**, also known as the **iPad Generation**, born between **2010 and 2024**.
- **Parental Lineage:** They will primarily be the children of **younger Millennials** and **older Gen Zers**.
- **Naming Origin:** The name "Beta" derives from the **Greek alphabet**, continuing the trend started with **Gen Alpha**, a term introduced by demographer **Mark McCrindle**.

#### What Defines a Generation?

- A **generation** refers to a group of individuals born in the same time frame, sharing similar experiences and influences.
- The concept gained prominence through **Karl Mannheim's 1928 paper, The Problem of Generations**.
- **Cohort:** A subgroup within a generation that experiences specific historical or cultural events, influencing shared values and beliefs.

#### How Are Generations Named?

Generational names often reflect key societal or historical changes:

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1. **Baby Boomers:** Named after the post-**World War II** baby boom.
2. **Millennials:** Referring to those reaching adulthood around the turn of the millennium.
3. **Greek Alphabet:** Recently adopted for naming, starting with **Generation Alpha** (2010–2024).

#### Notable Generations and Their Traits:

##### 1. Baby Boomers (1946–1964):

- **Historical Context:** Born during a time of post-war optimism and significant population growth.
- **Indian Perspective:** Experienced the **Emergency**, wars, and socialist policies.
- **Traits:** Idealistic, competitive, with a strong sense of independence and mistrust of authority.

##### 2. Generation X (1964–1979):

- **Identity:** Known for skepticism, with “X” symbolizing a break from traditional norms.
- **Influences in India:** Economic reforms, the rise of telecommunications, and early IT growth.
- **Nickname:** Called the “**Sandwich Generation**” for balancing care for aging parents (Boomers) and children (Gen Z).

##### 3. Millennials or Gen Y (1980–1995):

- **Technology Revolution:** Witnessed the dawn of the internet and technological breakthroughs.
- **Key Events:** Shaped by events like **9/11** and the rise of school violence, fostering a “live in the moment” attitude.
- **Traits:** Tech-savvy, socially conscious, and prioritizing **work-life balance**.

##### 4. Generation Z (1996–2010):

- **Digital Natives:** Grew up entirely in the age of **social media** and smartphones.
- **Challenges:** Lived through the **2007 financial crisis**, fostering resilience.
- **Advocacies:** Mental health, environmental sustainability, and social justice.

##### 5. Generation Alpha (2010–2024):

- **Social Media Natives:** This generation has only known a world dominated by digital platforms.
- **Impact of COVID-19:** The pandemic shaped their formative years.
- **Focus Areas:** Strong emphasis on **inclusion**, **sustainability**, and **mental health awareness**.

#### What Can We Expect from Generation Beta?

- **Inheriting Global Challenges:** Climate change, urbanization, and socio-economic inequality will define their environment.
- **AI-Driven World:** They will grow up in a world where **artificial intelligence** and **automation** are seamlessly integrated into everyday life.
- **Traits and Values:** Likely to emphasize **adaptability**, **hyper-connectivity**, and **sustainability**.

#### Conclusion:

As **Generation Beta** emerges, they will represent the next wave of cultural and technological evolution. Defined by their **hyper-connected lives**, they will shape the future while tackling inherited challenges. Each generation leaves its mark, and **Gen Beta** promises to be no exception.

### New National Museum in Delhi: A Glimpse into India's Timeless Legacy

**Context:** As part of the **Central Vista redevelopment plan**, the iconic **North and South Blocks** in New Delhi are being transformed into the country's most prestigious museum, '**Yug Yugeen Bharat**'—symbolizing **Eternal India**. This ambitious project is a step toward preserving and showcasing India's rich heritage while modernizing urban spaces.



#### About 'Yug Yugeen Bharat'

- **Symbolism:** The name translates to "Eternal India," capturing the essence of India's continuous civilizational journey.
- **Collaboration with France:** India has partnered with France, signing a **Memorandum of Understanding (MoU)** to develop the museum, drawing inspiration from globally renowned cultural projects like the **Louvre Museum**.
- **Architectural Significance:** The transformation of the North and South Blocks represents a perfect blend of **modern innovation** and **architectural preservation**.

#### Key Features of the Museum:

##### 1. Chronological and Thematic Displays:

- **North Block:** Artefacts will be arranged **chronologically** across **250 galleries**, narrating the story of India's historical evolution.
- **South Block:** This space will feature **thematic displays**, covering subjects such as **literature, architecture, art, and culture**.

##### 2. Immersive and Educational Spaces:

- **Augmented Reality (AR) Galleries:** Visitors can experience artefacts in an **interactive, digital format**, blending history with modern technology.
- **Learning Zones:** The museum will house **educational centres** and **children's corners**, fostering curiosity and learning among young minds.

##### 3. Largest Collection:

With **25,000–30,000 artefacts**, the museum aims to become the **largest cultural repository in the world**, surpassing many global counterparts in scale and diversity.

#### Adaptive Reuse: A Sustainable Transformation:

- **Retrofitting for Cultural Heritage:** The North and South Blocks are being **repurposed** into world-class museum spaces, retaining their **colonial architectural charm** while adapting them to modern requirements.
- **Global Inspiration:** The approach draws parallels with France's '**Grand Projects**' initiative, which converted historic government buildings like the **Louvre Museum** and the **Grand Palais** into cultural landmarks.

#### Office Relocation and Space Utilization:

- **Current Offices in North Block:** Houses the Ministries of **Finance** and **Home Affairs**.
- **Current Offices in South Block:** Includes the **Prime Minister's Office**, Ministry of **Defence**, and Ministry of **External Affairs**.
- These offices are being relocated to the **Common Central Secretariat (CCS)** on **Janpath**, making way for the museum's construction.

#### Additional Insights:

##### Historical Significance of the North and South Blocks:

- Designed by British architects **Herbert Baker** and **Edwin Lutyens** in the **1920s**, these structures have been at the heart of India's governance.



- The transformation into a museum marks the beginning of a new chapter in the buildings' legacy, ensuring their relevance for future generations.

#### Why This Museum Matters:

- **Global Benchmark:** Once completed, it will set a **new benchmark** in the world of museums, showcasing India's vast heritage on an unprecedented scale.
- **Cultural Diplomacy:** Collaborating with France strengthens India's cultural ties with one of the world's leading nations in **museum development**.
- **Public Engagement:** By integrating **technology and education**, the museum aims to become a hub for learning and global tourism.

#### Fact Corner:

- **Largest Museum in the World:** The Louvre Museum in Paris currently holds this title, with **380,000 artefacts**.
- **India's Current Largest Museum:** The **Indian Museum in Kolkata**, founded in **1814**, houses **over 100,000 objects**.
- **Significance of Central Vista:** This redevelopment project includes **new government offices**, the **Parliament building**, and the museum, reflecting India's **aspirational growth** while respecting its historical roots.

#### Conclusion:

The '**Yug Yugeen Bharat' Museum** is not just a cultural initiative—it's a testament to India's vision of balancing **modernity and tradition**. By preserving the architectural legacy of the **North and South Blocks** while showcasing the country's rich heritage, this project promises to redefine **India's cultural identity** on the global stage.

### Kumbh Mela 2025: A Spiritual Festival with Deep National Significance

**Context:** The **Maha Kumbh Mela 2025**, one of the largest religious gatherings in the world, is set to begin on **January 13, 2025**, in Prayagraj with the first **holy bath (snan)**.

Expected to attract over **45 crore devotees** over 45 days, this grand festival holds immense spiritual and cultural significance. While its origins are debated—ranging from ancient scriptures like the **Vedas** and **Puranas** to modern interpretations—it remains a unifying event for millions.



#### The Kumbh Mela: A Festival Rooted in Mythology:

##### Origin of the Word and Festival:

The Sanskrit word "**Kumbh**" means **pitcher** or **pot**. According to Hindu mythology:

- During the **churning of the ocean (Samudra Manthan)** by Devas (gods) and Asuras (demons), the celestial physician **Dhanvantri** emerged with a **pitcher of amrita (elixir of immortality)**.
- To prevent the Asuras from claiming the amrita, **Jayant**, the son of Indra, fled with the pot, protected by the **Sun, Shani (Saturn), Brihaspati (Jupiter)**, and the **Moon**.
- Over the course of **12 divine days** (equivalent to 12 human years), drops of amrita spilled at four locations:
  1. **Haridwar**
  2. **Prayagraj**
  3. **Ujjain**
  4. **Nashik-Trimbakeshwar**

These four sacred sites now host the **Kumbh Mela** every 12 years, based on celestial alignments.

**Types of Kumbh Mela:**

1. **Maha Kumbh (Poorna Kumbh):** Held every 12 years.
2. **Ardh-Kumbh:** Held every 6 years in Prayagraj and Haridwar.

**Sacred Rivers and Their Significance:**

Each Kumbh Mela is held on the banks of sacred rivers:

- **Haridwar:** River **Ganga**
- **Prayagraj:** Confluence of **Ganga, Yamuna**, and mythical **Saraswati**
- **Ujjain:** River **Kshipra**, associated with Vishnu's Varah avatar
- **Nashik-Trimbakeshwar:** River **Godavari**, revered as the "Ganga of the South"

Bathing in these rivers during the Kumbh, under specific celestial alignments, is believed to **cleanse sins** and grant **spiritual merit (punya)**.

**The Astrological Significance:**

The timing and location of the Kumbh Mela are determined by the **positions of Jupiter, the Sun, and the Moon**.

- **Jupiter's 12-year revolution** explains the 12-year interval between Kumbh Melas.
- Specific **astrological alignments** at each site guide the festival's occurrence.

**Historical References to Kumbh Mela:****Ancient Texts and Myths:**

- The **Skanda Purana** mentions the churning of the ocean but does not explicitly describe the modern festival.
- Some scholars believe the **Rig Veda** contains hymns extolling the benefits of attending sacred river festivals.

**Xuanzang's Account:**

The **Chinese traveler Xuanzang** described a grand bathing festival at Prayag in the 7th century CE. While unclear if it was the Kumbh Mela, it highlights the region's importance as a sacred site.

**Adi Shankaracharya's Influence:**

The 8th-century philosopher **Adi Shankaracharya** is credited with formalizing the four Kumbh sites, transforming them into **periodic spiritual gatherings** for ascetics and scholars to guide the public.

**How Kumbh Mela Became a Nationalist Platform:****Allahabad as a Cultural and Political Center:**

Post-1857, Allahabad (Prayagraj) emerged as a **political and administrative hub** under British rule. The establishment of institutions like the **High Court (1867)** and **Allahabad University (1887)** made it a focal point for intellectual and nationalist activity.

**Religious Festivals and Nationalism:****During the late 19th and early 20th centuries:**

- Nationalist leaders like **Bal Gangadhar Tilak** and **Gopal Krishna Gokhale** used religious festivals like the Kumbh Mela to promote **Swadeshi** and nationalist ideas.
- The British policy of **non-interference in religion** allowed these gatherings to become platforms for political mobilization.

**Congress and Religious Leaders:****By the 1930s:**

- The **Congress Party** actively utilized Kumbh Melas to spread nationalist messages.
- **Sadhus and ascetics** played a pivotal role, blending religious authority with nationalist ideals.





- Events like the **1936 Ardh Kumbh** featured displays such as the idol of **Bharat Mata**, symbolizing the fusion of spiritual devotion and patriotism.

### Conclusion:

The **Kumbh Mela** is much more than a spiritual gathering. Over centuries, it has evolved into a symbol of **unity, cultural heritage, and national pride**. During the freedom struggle, it became a potent platform for spreading nationalist ideas, shaping its legacy as a socio-religious event of immense significance.

In 2025, as millions gather in Prayagraj, the Maha Kumbh will once again remind us of its timeless role in fostering both **spiritual growth** and **national identity**.

## Harvest Festivals of India: Celebrating Prosperity and Gratitude

**Context:** Harvest festivals are being celebrated across India, showcasing the diversity and cultural richness of the nation.

### Understanding Harvest Festivals:

Harvest festivals are **annual celebrations** observed during the peak harvest season in different regions. These festivals are deeply rooted in **agriculture-based traditions** and serve as a way to express **gratitude** for a successful harvest.



### Significance of Harvest Festivals:

- Gratitude to Nature:** These festivals honor the bounty of crops and acknowledge the labor of farmers.
- Community Bonding:** They bring communities together to celebrate the end of the growing season.
- Spiritual Connections:** Many harvest festivals have a **religious or spiritual origin**, tied to ancient agricultural rituals.
- Cycle of Life:** They symbolize the **completion of the agricultural cycle** and often mark the **end of the year**.

### Major Harvest Festivals of India:

Festival	States Celebrated	Date	Significance
Lohri	Punjab, Haryana, Delhi, Himachal Pradesh, J&K	13th January	Marks the <b>end of winter</b> ; celebrated with folk songs and dances.
Makar Sankranti	Maharashtra, Gujarat, Uttar Pradesh, West Bengal, etc.	14th January	Marks the <b>sun's transition</b> from Sagittarius to Capricorn.
Pongal	Tamil Nadu	14th January	Celebrated as <b>Pogi, Surya Pongal</b> , and more, marking the Tamil month of Thai.
Magh Bihu	Assam	January	Celebrates the <b>end of the harvest season</b> and Assamese New Year.
Onam	Kerala	August-September	Marks the <b>homecoming of King Mahabali</b> during Chingam month.
Baisakhi	Punjab, Haryana, Delhi	13th/14th April	Signals the <b>start of the new agricultural season</b> .
Nuakhai	Odisha	Bhadraba month (Aug-Sep)	Welcomes the <b>new crop season</b> .
Vaisakha	Bihar	October-November	Devotees offer water to the <b>sun god</b> and take holy dips in rivers.

Hemis	Ladakh	June-July	Celebrates Guru <b>Padmasambhava's birth anniversary</b> at Hemis Monastery.
Dree	Arunachal Pradesh	5th July	A significant festival for the <b>Apatani tribe</b> to celebrate harvest.
Hornbill	Nagaland	First week of December	Dedicated to the <b>Hornbill bird</b> ; features the <b>Hornbill International Rock Festival</b> .
Nabanna	West Bengal	Vishwakarma Puja day	First crop of the season is offered to the deity, followed by a grand feast.

### Conclusion:

India's harvest festivals reflect the **cultural diversity and agrarian roots** of the country. From **Pongal in Tamil Nadu** to **Baisakhi in Punjab**, these celebrations not only honor the **hard work of farmers** but also act as a reminder of the strong connection between humans and nature. Through music, dance, and rituals, communities come together to celebrate **prosperity and gratitude**.

## The Flat-Top Sada of Konkan: A Biodiversity Treasure

**Context:** Recent studies on the **biodiversity** and **ecosystem** of the **Konkan region** have brought attention to the unique **sada**—the flat-topped **lateritic plateaus** that are characteristic of this coastal area. These plateaus are gaining recognition for their role in preserving diverse flora and fauna, while also offering valuable insights into **prehistoric** human life.



### What is Konkan Sada?

- **Geography:** Located between the **Arabian Sea** and the **Western Ghats**, the Konkan region is known for its striking **sadas** or flat-topped plateaus, particularly in the **Ratnagiri district**.
- **Formation:** These plateaus are the result of centuries of **erosion**, with terrain resembling that of the **Kaas Plateau** in **Satara district**, which is known for its rocky surface.
- **Significant Plateaus:**
  - **Sadawaghapur Plateau:** Situated on the **Tarle-Patan road** in **Patan tehsil, Satara district**, this plateau comes alive with vibrant **wildflower blooms** during the **monsoon**, attracting both tourists and nature enthusiasts.
  - **Barsu Sada:** Located near **Rajapur** in **Ratnagiri district**, this plateau is famous for its **ancient petroglyphs**, offering a glimpse into the prehistoric human activities that once shaped the region.

### Biodiversity Hotspot:

A study conducted from **2022 to 2024** has recorded an impressive range of species:

- **459 plant species**, including **105 endemic species**.
- **31 reptile species, 13 amphibians, 169 bird species, and 41 mammal species**.
- The **Indian flapshell turtle (Lissemys punctata)**, a vulnerable species, along with **leopards, jackals**, and various **migratory birds**, call this region home.

During the **monsoon**, the once barren plateaus are transformed into lush habitats that support this unique and diverse ecosystem.

### Water and Agriculture on the Sadas:

- Villages situated on the **sadas** rely on **open wells, springs**, and **perennial streams** for their water needs.



- The **lateritic soil**, highly weathered over time, acts as a **natural rainwater catchment**, effectively replenishing the **groundwater** supply.
- Locals engage in traditional, **pesticide-free farming** of **rice** and **millet**s (**Eleusine coracana**), particularly during the **monsoon season** on small patches of the **sadas**.

### Threats to the Sadas:

While these plateaus are home to diverse life forms, they face several challenges:

- **Laterite stone extraction**, a major activity, threatens the integrity of these plateaus.
- The region has been labeled as '**wasteland**' in the **Wasteland Atlas**, hindering efforts to protect and recognize its **ecological significance**.

### The Significance of Geoglyphs:

- **Geoglyphs** are large **designs** or **motifs** created on the ground by removing soil or using rocks to create patterns that contrast with the surrounding landscape.
- The **Konkan region**, particularly **Barsu Sada**, is home to **10,000-year-old geoglyphs**, offering insights into **prehistoric human life** and their **cultural expressions**.

### Indian Flapshell Turtle (*Lissemys punctata*):

- **IUCN Status: Vulnerable**
- **Native Range:** Found across **South Asia**, including **India, Pakistan, Sri Lanka, Nepal, and Bangladesh**.
- Prefers freshwater ecosystems such as **ponds, rivers, marshes, and lakes**.
- Found in **National Parks** like:
  - **Keoladeo National Park** (Rajasthan)
  - **Kaziranga National Park** (Assam)
  - **Sundarbans National Park** (West Bengal)

### Conclusion: A Unique Ecosystem at Risk

The **Konkan sadas** are not only geological wonders but also vital **biodiversity hotspots**. The region's unique ecosystems, combined with its rich cultural heritage, make it a treasure worth preserving. However, threats like **stone extraction** and the mislabeling of the land as **wasteland** threaten the delicate balance of this precious environment.

## Tamil Nadu: The Birthplace of the Iron Age – A Groundbreaking Discovery

**Context:** A **groundbreaking study** has uncovered that the **Iron Age in Tamil Nadu** began as early as **3,345 BCE**, drastically altering the previously understood timeline of iron usage in the region by over **1,000 years**. This new evidence challenges prior historical assumptions and underscores Tamil Nadu's pivotal role in early metallurgical advancements. The study was authored by **K Rajan** (Pondicherry University) and **R Sivanantham** (Tamil Nadu State Department of Archaeology).



### Iron Age in India: A Transformative Era

The **Iron Age** in India marked a period of significant advancement, especially in the use of **iron tools and weapons**. These innovations played a vital role in the **growth of agriculture, warfare, and social structures**. Traditionally, the Iron Age was believed to have begun around **1500 to 2000 BCE**, but new evidence from **Tamil Nadu** has revealed iron usage as early as **3345 BCE**, pushing the timeline back by more than a millennium.

### Technological Breakthroughs: Advancements in Metallurgy

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The **Iron Age** was a leap forward in **metallurgy**, following the **Copper-Bronze Age**. Iron smelting required the use of **advanced furnaces** capable of reaching temperatures as high as **1534°C**, showcasing the remarkable technological prowess of the era.

#### Archaeological Evidence: Key Discoveries in Tamil Nadu

- **North India:** Iron usage in sites like **Hastinapur**, **Kausambi**, and **Ujjain** is linked to the **Painted Grey Ware (PGW)** culture.
- **Central India and Deccan:** Sites like **Nagda**, **Eran**, and **Prakash** reveal evidence of **iron-bearing Black and Red Ware (BRW)**.
- **South India:** Iron artifacts date back to the **Neolithic** and **Megalithic** phases, indicating early iron use in Tamil Nadu.

#### Iron Age's Role in Agriculture and Urbanization:

Iron tools, including **axes** and **ploughs**, were essential in clearing forests and expanding agricultural activities. This facilitated the **second urbanization** in the **Ganga valley (800-500 BCE)**, bringing about **increased agricultural productivity** and **urban growth**.

#### Social and Economic Impact of the Iron Age:

The spread of **iron technology** enabled **forest clearance**, enhanced **agriculture**, and led to urbanization, resulting in **socio-economic stratification**. This era also saw the rise of **chiefdoms**, **states**, and the formation of **trading networks**, laying the foundation for the formation of the **Mauryan Empire** and the integration of diverse regions.

#### Key Findings of the Study: Revising the Iron Age Timeline

The report, '**Antiquity of Iron: Recent Radiometric Dates from Tamil Nadu**', offers conclusive evidence that **iron technology** in Tamil Nadu dates back to as early as **3345 BCE**. Using **Accelerator Mass Spectrometry (AMS)** and **Optically Stimulated Luminescence (OSL)** methods, the study redefines the global history of **iron metallurgy**.

#### Archaeological Sites Studied: Confirming Early Metallurgical Practices

- **Sivagalai:** Charcoal and potsherd samples date iron technology to **2953-3345 BCE**, with a paddy sample from a burial urn dated to **1155 BCE**.
- **Mayiladumparai:** Samples from this site, dating to **2172 BCE**, surpass earlier benchmarks for the region.
- **Kilnamandi:** The discovery of a **sarcophagus burial** dating to **1692 BCE** is the earliest of its kind in Tamil Nadu.

#### Tamil Nadu: A Leader in Early Metallurgy

This study positions **Tamil Nadu** as a pioneer in **early metallurgy**, with evidence of **smelted iron** dating back to the **middle of the 3rd millennium BCE**. The research suggests that the **Copper Age** in **North India** and the **Iron Age** in **South India** occurred simultaneously, reflecting distinct but parallel cultural trajectories.

#### Advanced Iron-Smelting Techniques in Tamil Nadu:

Archaeologists identified three distinct iron-smelting furnaces at:

- **Kodumanal:** Circular furnaces that could reach **1300°C**, enough to produce **sponge iron**.
- **Chettipalayam** and **Perungalur:** These sites demonstrated further innovative **smelting techniques**, highlighting Tamil Nadu's sophisticated knowledge of **pyro-technology**.

#### Significance of the Study: A New Chapter in Indian Archaeology

- **Iron Age Timeline Revised:** The discovery of **radiometric data** from **Sivagalai** places the use of iron in Tamil Nadu as early as **3345 BCE**, making it the earliest evidence of iron technology globally.
- **Global Implications:** This finding challenges the widely accepted **Hittite Empire (1300 BCE)** as the birthplace of the Iron Age.





- **A Turning Point in Archaeology:** This discovery marks a monumental shift in the history of **Indian archaeology**, positioning Tamil Nadu at the forefront of **global metallurgical innovation**.

This **groundbreaking study** not only rewrites the history of the **Iron Age** in India but also elevates Tamil Nadu as a key player in the **evolution of metallurgy**, offering new insights into the technological advancements of ancient civilizations.

## Unified District Information System for Education Plus (UDISE+): 2023-24 Report

**Context:** The **Ministry of Education (MoE)** has released its latest **UDISE+ report**, revealing a significant decline in **student enrolment** by over **1 crore** in the academic year **2023-24**, compared to previous years.

### What is UDISE+?

The **Unified District Information System for Education Plus (UDISE+)** was introduced by the **Department of School Education & Literacy (DOSEL)** in **2018-19** to modernize the process of collecting, verifying, and analyzing school-level data.



### Key Features of UDISE+:

- Facilitates **online data uploading** at the school level, verified by **Block, District, and State authorities**.
- Provides critical insights for **monitoring** and **evaluating** education quality from **pre-primary** to **higher secondary levels**.

### Major Findings of UDISE+ 2023-24

#### 1. Enrolment Trends:

- **Overall Decline:** Enrolment dropped to **24.8 crore students**, marking a **6% decrease** since **2018-19**.
- **Class-Level Analysis:**
  - **Primary (Classes 1-5), Upper Primary (Classes 6-8), and Secondary (Classes 9-10)** levels experienced sharp declines.
  - Conversely, **Pre-primary** and **Higher Secondary (Classes 11-12)** levels witnessed a rise in enrolment.

#### 2. Gender-Wise Decline:

- Enrolment for **boys** dropped by **4.87%**, while for **girls**, the decline was **4.48%** compared to **2018-19**.

#### 3. State-Level Decline:

- States such as **Bihar, Uttar Pradesh, and Maharashtra** reported the largest enrolment drops.

#### 4. Infrastructure Deficiencies:

- Only **57.2%** of schools have **functional computers**.
- Just **53.9%** have **internet access**, and **52.3%** have **ramps** for accessibility, highlighting critical gaps in technology and inclusivity.

### Challenges in India's Education System:

1. **Inequitable Access:** **Urban-rural divide** and disparities among **socioeconomic groups** affect access to quality education.
2. **Quality Concerns:** Inadequate **teacher training**, **outdated teaching methods**, and poor **infrastructure** compromise education quality.
3. **High Dropout Rates:** Financial constraints, **early marriages**, and lack of interest are major contributors to **secondary-level dropouts**.



4. **Infrastructure Gaps:** Many schools lack essential facilities like **classrooms, toilets, and electricity**, particularly in rural areas.
5. **Overemphasis on Rote Learning:** The education system prioritizes **memorization** over **critical thinking** and **practical skills**.
6. **Insufficient Funding:** Limited public spending on education restricts resources for **teachers, schools, and reforms**.
7. **Digital Divide:** Limited access to **technology** in rural areas prevents the integration of **digital learning tools**.

#### Government Initiatives to Address These Challenges:

1. **Right to Education (RTE) Act, 2009:** Ensures **free and compulsory education** for children aged **6–14 years**, emphasizing inclusivity and quality.
2. **Mid-Day Meal Scheme:** Provides **nutritious meals** to improve school attendance and reduce dropout rates.
3. **Swachh Vidyalaya Abhiyan:** Focuses on **sanitation facilities**, ensuring clean drinking water and toilets to support girls' education.
4. **Digital India Programme:** Promotes **digital education** by bridging the technology gap.
5. **New Education Policy (NEP) 2020:**
  - Introduced the **5+3+3+4 structure**, aligning education with developmental stages.
  - Shifted focus to **multi-disciplinary learning, critical thinking, and practical skills**.
6. **Financial Support and Scholarships:** Various **scholarship programs**, like **Pre-Matric and Post-Matric schemes**, aim to support students from economically weaker sections.

#### Looking Ahead:

The **UDISE+ 2023-24 report** underscores the urgent need for **targeted interventions** to address enrolment declines, infrastructure gaps, and disparities in access and quality. By strengthening existing **government initiatives**, improving **funding**, and adopting **technology-driven solutions**, India can achieve its vision of an **inclusive, equitable, and high-quality education system**.

### California Wildfires 2025: Santa Ana Winds and Drought Amplify Destruction

**Context:** Devastating wildfires in **Los Angeles, California**, have claimed **10 lives**, forced over **130,000 evacuations**, and destroyed numerous homes, including those of celebrities like **Paris Hilton** and **Billy Crystal**.

#### Key updates:

- Areas like **Hollywood Hills** are severely affected by fires such as **Palisades, Eaton, Sunset, Hurst, and Lidia** fires.
- The **Oscars nominations announcement** has been postponed due to the crisis.
- While wildfires are common in California, the **intensity** and **winter timing** of these fires are unprecedented.



#### California Wildfires 2025: Timeline and Unusual Features:

##### 1. Timeline of Events:

- The first fire ignited on **January 7** in the **Pacific Palisades** neighborhood of Los Angeles.
  - This firestorm is being described as the **worst in recent memory**, striking during **January**, the traditionally coldest month of winter.
- ##### 3. Unusual Timing and Drought Conditions:



- Wildfires typically occur between **June and October**, making this **January wildfire** highly unusual.
- Southern California is grappling with **intense drought conditions**:
  - As of December 31, 2024, only **40.9%** of the state was drought-free, compared to **96.65%** the year prior.

### What Caused the California Wildfires?

The precise cause is under investigation, but **power cables** impacted by strong winds are suspected.

### Three Main Factors Behind the Blaze:

#### 1. Wet Weather Followed by Extreme Dryness

- **Dense vegetation** growth in **2022–2023** due to unusually wet winters.
- The **2024–2025 winter** has been exceptionally dry, turning this vegetation into **highly flammable kindling**.
- **NASA Report**: Southern California has experienced negligible rainfall since October, making this the **driest start to a water year in Los Angeles since 1944**.

#### 2. Santa Ana Winds

- These winds are **stronger than usual**, spreading fires rapidly.
- They:
  - Originate from **high-pressure systems** over the Great Basin.
  - Become **hotter, drier, and faster** as they descend over mountains.
  - Act as a natural **bellows**, fueling flames and igniting dry vegetation.

#### 3. Impact of Climate Change:

- **Global warming** has worsened extreme weather, including wildfires.
- Key changes:
  - **Rising global temperatures** and **early snowmelt** have extended and intensified dry seasons.
  - Vegetation is under **increased moisture stress**, creating more fuel for fires.

### Understanding Santa Ana Winds:

#### What Are Santa Ana Winds?

**Santa Ana Winds** are **hot, dry, and strong winds** blowing from the inland deserts of **Southern California** toward the coast. They are notorious for rapidly spreading wildfires.

#### Causes of Santa Ana Winds:

##### 1. High-Pressure Systems in the Great Basin:

- These winds are driven by **high-pressure systems** over the **Great Basin** (spanning Nevada, Utah, and California).
- The air circulates clockwise, pushing winds toward **low-pressure coastal areas**.

##### 2. Descending Air:

- As the winds descend from **high elevations** (like the **Sierra Nevada and Santa Ana Mountains**), they:

##### 3. Speed Amplification in Narrow Passages:

- As winds pass through **mountain canyons** and **narrow gaps**, their speed increases significantly.
- Gusts can exceed **100 mph (160 km/h)** in certain areas.

### Characteristics of Santa Ana Winds:



- **Hot and Dry:** The winds heat up as they descend, drying out vegetation.
- **High Velocity:** Strong gusts can lead to **property damage** and **power outages**.
- **Fire Spreading:** These winds act as a **natural accelerant**, turning small fires into raging infernos.

#### Impact and Future Outlook:

- The **California wildfires of 2025** highlight the interplay between **natural factors** (like Santa Ana winds) and **human-driven climate change**.
- Efforts to mitigate such disasters require:
  - **Better infrastructure** to prevent power-line sparks.
  - **Improved drought management** and **forest policies**.
  - Increased public awareness about the dangers of **Santa Ana Winds** during drought seasons.

#### Did You Know?

- **Santa Ana Winds** are sometimes called “**Devil Winds**” due to their fiery impact.
- The **2003 Cedar Fire**, one of California's largest wildfires, was also fueled by **Santa Ana Winds**, burning over **280,000 acres** and destroying **2,800 structures**.

## Groundwater Contamination in India: Nitrate and Chemical Pollutants

**Context:** A recent assessment by the **Central Ground Water Board (CGWB)** has revealed alarming levels of **nitrate contamination** in several Indian states. This issue poses a significant **health and environmental risk**, affecting over half of India's districts.



### Central Ground Water Board (CGWB): A Key Player

#### About the CGWB:

The **Central Ground Water Board (CGWB)** operates under the **Ministry of Jal Shakti** and is tasked with the **monitoring, management, and regulation of groundwater resources** across India.

- **Headquarters:** Bhujal Bhawan, Faridabad, Haryana
- **Leadership:** Headed by a Chairman with a team of five members.

#### Monitoring Groundwater Levels:

- **Observation Network:** 26,000 wells are used to manually measure groundwater levels.
- **Digital Integration:** Since 2023, **16,000–17,000 piezometers** equipped with digital water-level recorders provide **real-time data** to a central monitoring system.

### Nitrate Contamination in Groundwater: A Rising Concern

#### Increase in Nitrate-Contaminated Districts:

- In **2017**, **359 districts** reported excessive nitrate levels in groundwater.
- By **2023**, this figure rose to **440 districts**, impacting **56% of India's districts**.

#### Groundwater Testing Trends:

- **2017:** Of **13,028 samples**, **21.6%** exceeded safe nitrate levels (above **45 mg/l**).
- **2023:** Out of **15,239 samples**, **19.8%** showed contamination.





- While the **percentage** of affected samples remained relatively stable, the number of **contaminated districts** increased significantly.

#### Health Implications:

Excessive nitrate causes **methemoglobinemia** or “blue baby syndrome,” which reduces the oxygen-carrying capacity of red blood cells, particularly affecting **infants and vulnerable populations**.

#### Environmental Impact:

- High nitrate levels lead to **algal blooms** in water bodies, causing **oxygen depletion** and damaging aquatic ecosystems.

#### Sources of Nitrate Contamination:

- Agricultural Practices:** Fertilizers like **ammonium nitrate, urea, and diammonium hydrogen phosphate** contribute to nitrate leaching.
- Forms of Nitrogen in Groundwater:**
  - Nitrate ( $\text{NO}_3^-$ )
  - Ammonium ( $\text{NH}_4^+$ )
  - Ammonia ( $\text{NH}_3$ )
  - Nitrite ( $\text{NO}_2^-$ )
  - Nitrogen gas ( $\text{N}_2$ )
  - Nitrous oxide ( $\text{N}_2\text{O}$ )
  - Organic nitrogen

#### Regional Analysis of Nitrate Contamination:

##### States with the Highest Proportion of Contamination

- Rajasthan:** 49% of samples tested exceeded nitrate limits.
- Karnataka:** 48% of samples were contaminated.
- Tamil Nadu:** 37% of samples had unsafe nitrate levels.

#### Persistent Issues in Some States:

- Rajasthan, Madhya Pradesh, and Gujarat** have faced **long-standing nitrate contamination** since 2017.

#### Emerging Concerns:

- Central and Southern States** are reporting **increasing nitrate contamination**.
- Key states:
  - Maharashtra:** 35.74%
  - Telangana:** 27.48%
  - Andhra Pradesh:** 23.5%
  - Madhya Pradesh:** 22.58%

#### Other Major Chemical Contaminants in Groundwater

##### Arsenic, Fluoride, Iron, and Uranium

In addition to nitrate, these contaminants are critical threats to **groundwater quality**.

#### Fluoride Contamination:

- 9.04%** of groundwater samples exceed permissible fluoride levels.
- High-Risk States:** Rajasthan, Haryana, Karnataka, Andhra Pradesh, and Telangana.

### Uranium Contamination:

- Uranium levels in some samples exceed **100 ppb (parts per billion)**, far above the safe limit of **30 ppb**.
- High-Risk States:** Rajasthan, Punjab, Gujarat, Haryana, Tamil Nadu, Andhra Pradesh, and Karnataka.

### Root Cause:

- Over-exploited groundwater zones where **withdrawal exceeds natural replenishment** are more prone to contamination.

### The State of Groundwater in 2024:

#### Extraction Trends:

- India's groundwater extraction rate is **60.4%**, consistent since 2009.

#### Safe Zones:

- Approximately **73% of blocks** are classified as 'safe,' indicating adequate replenishment to balance water withdrawal.

### The Way Forward:

- Promote Sustainable Agriculture:** Encourage the use of organic fertilizers and precision farming techniques to reduce nitrate leaching.
- Strengthen Monitoring Systems:** Expand digital water-level recorders and observation networks for real-time data.
- Enhance Public Awareness:** Educate communities about the health and environmental risks of groundwater contamination.
- Policy Interventions:** Enforce strict regulations on fertilizer usage and groundwater withdrawal in vulnerable zones.

### Conclusion:

India's groundwater faces **critical challenges** from nitrate and other chemical contaminants. Addressing this issue requires **collective efforts** from government agencies, local authorities, and the public to ensure a **sustainable and safe water future**.

## Shifting of Earth's Magnetic North Pole: A Dynamic Phenomenon

**Context:** Scientists have unveiled a new model tracking the **Magnetic North Pole**, revealing that it has moved closer to **Siberia** and continues to drift towards **Russia**. This shift highlights the dynamic nature of **Earth's magnetic field** and its ever-changing behavior.

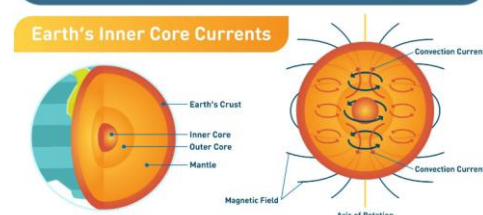
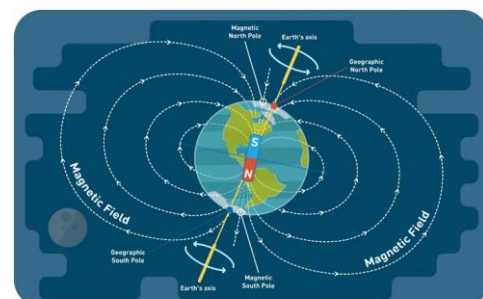
### Understanding Earth's Magnetic Poles

#### What Are Magnetic Poles?

The **Magnetic Poles** are the points on Earth's surface where the **planet's magnetic field** is directed vertically downward. These poles are not fixed and are influenced by movements deep within the Earth.

#### Why Do They Move?

Unlike the **Geographic North Pole**, which remains constant, the **Magnetic North Pole** shifts due to changes in **Earth's molten core**. The first recorded





position of the **Magnetic North Pole** was in **1831** by explorer **James Clark Ross**, located near **Canada's Arctic islands**. Over the past century, it has traveled more than **400 km** towards **Russia**.

### Why Is the Magnetic North Pole Shifting?

Several key factors contribute to this movement:

#### 1. Core Fluid Dynamics

- The **Earth's outer core** is composed of **molten iron and nickel** that move in turbulent patterns.
- These **fluid motions** generate the **Earth's magnetic field** and directly influence the **position of the poles**.

#### 2. Geomagnetic Anomalies

- The **South Atlantic Anomaly**, a region where Earth's magnetic field is weaker, suggests **instability** in the magnetic field.
- Such anomalies contribute to the **irregular movement** of the **Magnetic North Pole**.

#### 3. Earth's Magnetic Reversal Cycle

- The Earth undergoes **geomagnetic reversals**, where the **north and south poles switch places** every few hundred thousand years.
- The last reversal, the **Brunhes-Matuyama Reversal**, occurred around **780,000 years ago**.
- While the current shift does not confirm an **imminent reversal**, it signals long-term **geomagnetic changes**.

### Earth's Magnetic Field and Its Importance

#### How Is the Magnetic Field Generated?

- The **Earth's outer core** produces the **magnetic field** through the movement of molten iron and nickel.
- This field extends into space, forming a **protective shield** around the planet.

#### Role of the Magnetosphere

The **magnetosphere** is Earth's **first line of defense** against harmful **solar wind** and **cosmic radiation**.

- It **deflects high-energy particles**, protecting life on Earth.
- It traps charged particles in the **Van Allen Belts**, forming a **protective barrier**.
- Variations in the **solar wind** can cause **geomagnetic storms**, impacting **satellites, power grids, and navigation systems**.

### Consequences of the Magnetic North Pole's Shift

The shifting **Magnetic North Pole** has several **critical implications**:

#### 1. Impact on Navigation

- **Aviation and maritime industries** rely on **magnetic navigation** for precise direction-finding.
- Frequent updates to the **World Magnetic Model (WMM)** are required to maintain **accurate navigation**.

#### 2. Disruptions to Animal Migration

- Many species, including **birds, turtles, and marine animals**, use the **Earth's magnetic field** for navigation.
- Changes in the **magnetic field** may disrupt their **migration patterns**, affecting **ecosystems**.

#### 3. Increased Vulnerability to Solar Storms



- The weakening of the **magnetic field** makes the Earth **more exposed** to solar storms.
- This could **disrupt communication systems, GPS technology, and power grids**.

**4. Scientific Insights:** The shifting **Magnetic North Pole** offers an opportunity for **scientists** to study the **Earth's geodynamo** and predict **future changes** in the **magnetic field**.

### Conclusion:

The continued movement of the **Magnetic North Pole** highlights the **dynamic nature** of **Earth's interior**. While it does not indicate an **imminent disaster**, understanding these shifts is **crucial** for **navigation, wildlife conservation, and technological security**. Scientists will continue monitoring these **changes** to better predict their **long-term effects** on our planet.





### Call for Renaming India-Linked Fungus: A Global Health Concern

**Context:** A group of **dermatologists** from **14 countries**, including **India** and **Germany**, has called for a change in the **regional naming** of a novel **fungal species**, **Trichophyton indotineae**, which is responsible for difficult-to-treat **skin infections**. The dermatologists argue that naming this fungus after specific geographic regions promotes **prejudice**, spreads **misinformation**, and goes against global **health guidelines** set by major health organizations like the **World Health Organization (WHO)**.



#### About Trichophyton Indotineae:

- **Identification:** First identified in **2020** by **Japanese dermatologists**, this fungus was found in patients from **India** and **Nepal**.
- **Historical Naming Practice:** The fungus was named following a historical practice of linking infectious agents to specific **geographical regions**, an approach the dermatologists believe fosters stigma.
- **Early Classification:** Initially categorized as a variant of **Trichophyton mentagrophytes**, also referred to as **Internal Transcribed Spacer (ITS) genotype VIII/T. interdigitale**.
- **Global Spread:** Cases have been reported across **multiple continents**, including **Europe**, **the Middle East**, **North America**, and **Asia**, primarily due to **travel** and **migration** from **South Asia**.
- **Transmission:** The fungus is **mainly transmitted** through **person-to-person contact**, such as **skin-to-skin interactions** and sharing personal items. **Emerging evidence** also suggests **sexual contact** may be another mode of transmission.
- **Symptoms:** It causes **inflammatory** and **itchy dermatophytosis**, typically affecting areas like the **groin**, **gluteal region**, **trunk**, and **face**.
- **Antifungal Resistance:** This fungus shows significant **resistance to terbinafine**, a common antifungal drug, due to mutations in the **squalene epoxidase gene**, making treatment challenging.
- **Global Health Threat:** Found in over **40 countries**, **Trichophyton indotineae** is now a **global health concern**.

#### Concerns Raised by Dermatologists:

The dermatologists have highlighted the following concerns regarding the fungus's naming:

- **Stigmatization:** Naming infectious agents after specific locations fosters **stigma**, **racial prejudice**, and **misinformation**.
- **Contradiction with Global Guidelines:** The naming of **Trichophyton indotineae** goes against the **World Health Organization's (WHO)** guidelines, which recommend avoiding geographical names for pathogens.
- **Scientifically Unsubstantiated Naming:** The fungus was named after isolates from only **two patients**—one from **India** and one from **Nepal**—making the region-specific naming scientifically questionable.
- **Unclear Origin:** The true **origin** of the fungus is still unknown, rendering a regional name **inappropriate**.

#### Internal Transcribed Spacer (ITS):

The **Internal Transcribed Spacer (ITS)** is a genetic marker crucial for identifying and analyzing fungal species.

- **Genetic Marker:** Found in the **ribosomal RNA gene cluster**, ITS plays a role in regulating **rRNA production** but does not code for proteins.
- **Fungal Identification:** Its high variability makes it ideal for distinguishing **fungal species**, including **Trichophyton indotineae**.
- **Molecular Diagnostics:** ITS is widely used in **molecular diagnostics** to identify **fungi** accurately.



### The Call for Change:

The dermatologists are urging health organizations and scientists to reconsider the **regional naming** of **Trichophyton indotineae** and adopt a more **neutral** and **scientifically sound approach** that avoids perpetuating harmful stereotypes or geographical associations. This call aligns with the **global health community's commitment** to accurate, non-biased scientific practices that foster collaboration and unity across borders in tackling global health issues.

### Cabinet Approves 6% Hike in Jute MSP for 2025-26 Marketing Season

**Context:** The Maharashtra Food & Drugs Administration (FDA) recently allowed **homeopathic practitioners** with a **certificate course in modern pharmacology** to prescribe **allopathic medications**. This directive has sparked debates on the legality, safety, and ethics of crosspathy in India.



### Understanding Crosspathy:

#### Definition:

Crosspathy refers to the practice of medical professionals trained in one system of medicine—like **Ayurveda**, **Homeopathy**, or **Unani**—prescribing medicines or performing treatments from another system, primarily **Allopathy** (modern medicine).

**Prevalence in India:** Crosspathy is widespread, particularly in **rural areas**, where there is a critical shortage of qualified allopathic doctors.

### Legal and Regulatory Framework for Crosspathy:

- Permissibility:** Crosspathy is **illegal** unless explicitly allowed by state laws or government directives.
- Judicial Rulings:**
  - The **Supreme Court of India** has ruled that practicing outside one's field of expertise amounts to **medical negligence** unless authorized by law.
  - Several crosspathy practitioners have faced penalties under the **Indian Medical Council Act** and state medical regulations.
- State-Specific Policies:**
  - Maharashtra's **2014 law** expanded the definition of a "registered medical practitioner" to include homeopaths with pharmacology training.
  - In contrast, states like **Kerala** maintain stricter boundaries between medical systems.

### Rationale Behind Crosspathy in India:

- Doctor Shortages:**
  - India faces an acute shortage of allopathic doctors, especially in rural areas.
  - As of **2022-23**, there was an **80% shortfall of specialists** in rural Community Health Centres (CHCs).
- Rural Accessibility:** AYUSH practitioners are often the only available medical resource for underserved populations.
- Cost Factors:** Low-income patients often prefer AYUSH practitioners due to affordability compared to allopathic doctors or urban hospitals.
- Policy Adjustments:** To mitigate gaps, some states (e.g., **Goa, Maharashtra**) have permitted **limited crosspathy**, despite opposition from the medical community.

### Recent Developments in Maharashtra:



**Maharashtra FDA Directive:** The **2024 order** allows homeopaths who have completed a **certificate course in modern pharmacology** to prescribe allopathic medicines. This clarifies the 2014 law's provisions and resolves confusion over chemists honoring such prescriptions.

#### Government's Justification:

- Addressing the **shortfall of doctors** in rural areas.
- Utilizing **5.65 lakh AYUSH practitioners** alongside India's **13 lakh allopathic doctors** to expand healthcare access.

#### Challenges and Criticisms:

##### 1. Patient Safety Concerns:

- Critics argue that a short pharmacology course cannot substitute for the **extensive training** MBBS doctors receive.
- Risks include **misdiagnosis**, improper prescriptions, and **complications** arising from inadequate medical knowledge.

##### 2. Legal Ambiguity:

- Conflicts with previous **Bombay High Court (2017)** and **Supreme Court** rulings that limit crosspathy practices.
- The directive may face **judicial challenges**, creating regulatory uncertainty.

##### 3. Opposition from Medical Associations:

- The **Indian Medical Association (IMA)** strongly opposes the move, labeling it as a **dilution of healthcare standards**.
- They argue that this undermines the integrity of medical practice.

##### 4. Regulatory Challenges:

Ensuring proper oversight of crosspathy practitioners in rural areas is difficult, leading to potential misuse or **unethical practices**.

#### Implications of the Move: For Patients

- **Risks:** Increased likelihood of substandard care, particularly in underserved areas.
- **Benefits:** Improved access to basic medical services where allopathic doctors are unavailable.

#### For the Healthcare System:

- **Pros:** Alleviates immediate doctor shortages in rural regions.
- **Cons:** Weakens healthcare standards and complicates medical regulation.

#### Way Forward:

1. **Strengthen Oversight:** Establish robust regulatory mechanisms to monitor crosspathy practices and ensure patient safety.
2. **Improve Rural Healthcare:**
  - Increase incentives for MBBS graduates to serve in rural areas.
  - Expand public health facilities to reduce dependence on crosspathy.
3. **Refine Crosspathy Policies:**
  - Define clear guidelines for permissible cross-system practices.
  - Align state laws with national healthcare standards to avoid regulatory conflicts.
4. **Focus on AYUSH Integration:** Utilize AYUSH practitioners in areas where their systems excel, like **preventive care**, rather than substituting modern medicine.

#### Conclusion:

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To the Point

# Monthly Current Affairs

## January 2025



Maharashtra's decision to allow homeopaths to prescribe allopathic medicine reflects an attempt to address critical gaps in India's healthcare delivery system. While the move may improve accessibility in the short term, it raises significant concerns about patient safety, medical ethics, and healthcare standards. A balanced approach that combines structural reforms, regulatory clarity, and capacity building is essential to ensure sustainable and equitable healthcare for all.



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Page No

260