



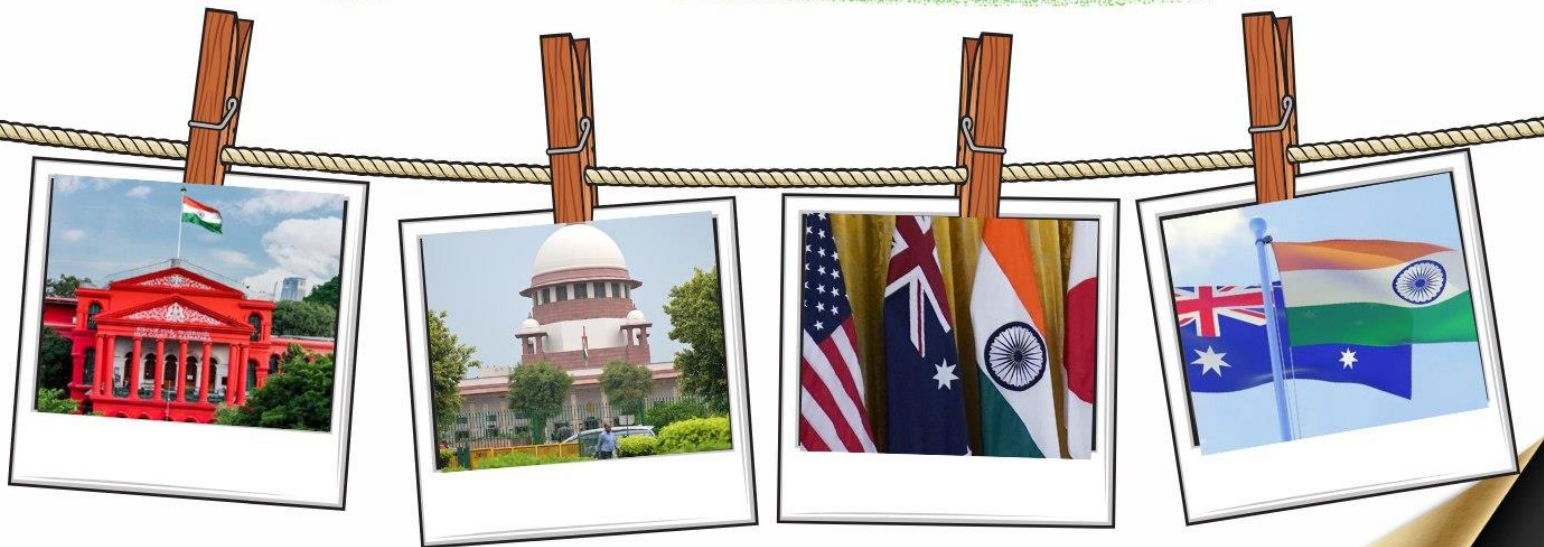
Weekly Current Affairs



To The Point

by Dhananjay Gautam

29 Dec to 04 Jan 2025



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India's Deep Ocean Exploration Mission: A Vision for 2026

Context: India is set to embark on a groundbreaking journey into the depths of the ocean with its ambitious **Deep Ocean Mission (DOM)**, aiming to send a human into the deep sea by 2026. This initiative complements India's first human space mission, marking a significant stride in technological advancements and ocean exploration.

**Deep Ocean Mission (DOM):**

The **Deep Ocean Mission** is spearheaded by the **Ministry of Earth Sciences (MoES)** and was launched in 2021 with an investment of **4,077 crore**, spread over five years.

Key Pillars of the Mission:

- 1. Deep-Sea Mining and Manned Submersible:**
 - Development of technology to mine resources from ocean depths.
 - Creation of a submersible capable of carrying three individuals to a depth of **6,000 meters**.
- 2. Ocean Climate Advisory Services:** Establishing models and observations to predict ocean-linked climate changes.
- 3. Biodiversity Conservation:** Innovative technologies to explore and conserve deep-sea ecosystems.
- 4. Survey and Mineral Exploration:** Identification of polymetallic sulphides along the mid-oceanic ridges in the **Indian Ocean**.
- 5. Ocean Energy and Freshwater Utilization:** Research into harnessing energy and freshwater from the ocean.
- 6. Marine Station for Ocean Biology:** Creation of a hub to nurture talent in **blue biotechnology** and ocean biology research.

Developments under DOM:**Samudrayaan Mission:**

Part of DOM, the **Samudrayaan Mission** was initiated in 2021 to send humans to the ocean bed at depths of **6,000 meters** in the **Central Indian Ocean** using the submersible **Matsya6000**.

Matsya6000: India's Deep-Sea Submersible

- Designed to carry **three aquanauts** to the ocean depths.
- Equipped with scientific tools for observation, sample collection, and video/audio recording.
- Built using **titanium alloy** to withstand pressures up to **6,000 bars**.
- Travels at a speed of **5.5 km/hr** with advanced underwater thrusters.

Significance of DOM:

- Blue Economy:** Aligned with the '**New India 2030**' vision, the mission boosts India's efforts to develop a sustainable **blue economy**.
- Global Leadership:** India joins an elite group of nations investing in **deep-sea exploration**, marking it as a leader in **ocean science**.
- Resource Extraction:** Sustainable extraction of valuable minerals like **polymetallic nodules and sulphides**.



4. **United Nations Decade of Ocean Science:** Contributing to the global initiative (2021–2030) to enhance ocean research.

Challenges Ahead:

1. **Extreme Ocean Pressure:** Equipment must endure immense pressures at great depths.
2. **Soft Ocean Bed:** Landing on the muddy seabed presents technical hurdles.
3. **Power Requirements:** Extracting minerals to the surface demands significant energy.
4. **Low Visibility:** The absence of natural light at deep-sea levels complicates operations.

Conclusion:

The **Deep Ocean Mission** is a transformative step toward harnessing the untapped potential of the seas. With the **Matsya6000** leading the charge, India is poised to become the **6th nation** to achieve such a feat, unlocking new opportunities in science, innovation, and sustainable resource management. This mission reinforces India's commitment to exploring the mysteries of the deep and driving economic growth through the **blue economy**.



**Household Consumption Expenditure Survey (HCES) 2023-24: Key Insights and Trends**

Context: The Ministry of Statistics and Programme Implementation (MoSPI) initiated consecutive Household Consumption Expenditure Surveys (HCES) for 2022-23 and 2023-24. These surveys provide critical data on **consumption patterns** across India, aiding policy formulation and economic planning.

**About HCES:**

The National Sample Survey Office (NSSO), under MoSPI, has conducted Consumer Expenditure Surveys since 1972.

Objective:

- To gather data on household consumption of goods and services.
- To estimate **Monthly Per Capita Consumption Expenditure (MPCE)** for rural and urban sectors.

Key Focus Areas:

- Consumption patterns of **food, non-food, and durable goods**.
- Inclusion of items received free of cost through **social welfare programs**.

Methodology:

- The survey uses **three questionnaires** focusing on:
 1. Food items
 2. Consumables and services
 3. Durable goods
- Increased item coverage from **347 to 405**.
- Multiple visits for data collection replaced the earlier **single-visit method**.

Highlights of 2023-24 Survey:**Average Monthly Spending::**

- Rural MPCE rose by **9.2%** to 4,122.
- Urban MPCE grew by **8.3%** to 6,996.

Spending Patterns:

- **Rural Areas:**
 - **Non-food items** accounted for **53%** of spending.
 - Major expenditures included **clothing, bedding, and footwear**.
- **Urban Areas:**
 - **Non-food items** comprised **60%** of spending, dominated by **entertainment, clothing, and education**.
 - **Food categories** like **beverages, processed foods, and dairy products** contributed **31.5%** to spending growth.

**Key Trends and Insights:****Rural-Urban Gap:**

- The gap between rural and urban spending reduced from **84% in 2011-12** to **70% in 2023-24**.
- Rural households now spend **69.7%** of urban households' expenditure.

Consumption Inequality:

- Declined significantly in both rural and urban areas.
- **Gini Coefficient** dropped from **0.266 to 0.237** (rural) and **0.314 to 0.284** (urban), signaling reduced inequality.

Regional Patterns:

- **High Spending States:** Maharashtra, Punjab, Tamil Nadu, and Kerala.
- **Low Spending States:** West Bengal, Bihar, Uttar Pradesh, and Odisha.
- **Sikkim** reported the **highest MPCE** (9,377 in rural areas and 13,927 in urban areas).
- **Chhattisgarh** recorded the **lowest MPCE**.

Future Outlook:

- The survey highlights the **narrowing rural-urban consumption gap** and a decline in **inequality**, showcasing the positive impact of government policies.
- **Regional disparities** in consumption still exist, necessitating **targeted interventions**.
- Policymakers can leverage these insights to foster **sustainable economic growth** and ensure **inclusive development**.

By addressing consumption patterns and regional disparities, India moves closer to **bridging economic gaps** and achieving **equitable progress**.

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TOGETHER WE SCALE HEIGHTS

Health Breakthroughs in 2025: A Future of Hope and Innovation

Context: As 2025 approaches, revolutionary advancements in healthcare are transforming possibilities in **weight management, cancer treatment, neurological disorders, and genetic therapies**. These innovations from 2024 signal a future brimming with **hope and promise** for patients worldwide.



Transformative Weight-Loss Treatments:

Glucagon-like peptide-1 (GLP-1) receptor agonists have emerged as a game-changer in combating **obesity, diabetes, and related health issues**.

- Breakthrough medications like **Zepbound, Ozempic, and Wegovy** are delivering unprecedented results in **weight loss and metabolic health improvement**.

Revolutionizing Cancer Treatment:

1. Immunotherapy Advances:

- CAR-T Cell Therapy:** Harnessing the immune system to destroy cancer cells, India's launch of **NexCAR19**, its first homegrown CAR-T therapy, is a significant achievement.
- Personalized Cancer Vaccines:** In the UK, the **Cancer Vaccine Launch Pad (CVLP)** is pioneering **mRNA-based vaccines**, customized to target individual patients' cancers.

2. Preventive Milestones:

- HPV Vaccination Campaign in India:** The nationwide rollout of **human papillomavirus (HPV) vaccines** in 2025 is a critical move toward reducing cancer prevalence, particularly **cervical cancer**.

Progress in Alzheimer's Treatment:

Alzheimer's, a condition affecting **millions globally**, including **5.3 million in India**, is seeing promising advancements:

- Leqembi (lecanemab)** and **Kisunla (donanemab-azbt)** are therapies designed to eliminate **amyloid beta plaques**, a key factor in cognitive decline.

Gene Editing: A New Frontier

Gene editing is poised to revolutionize the treatment of **genetic disorders**, offering hope to countless patients.

1. Sickle Cell Disease (SCD):

- Casgevy and Lyfgenia**, approved in 2023, are groundbreaking therapies providing a potential cure for **sickle cell disease** in patients aged 12 and older.

2. Cholesterol and Cardiovascular Disease:

- In 2024, **VERVE-101** and **VERVE-102** by Verve Therapeutics introduced innovative gene therapies targeting the **PCSK9 gene**, offering a permanent solution for conditions like **heterozygous familial hypercholesterolemia (HeFH)** and **atherosclerotic cardiovascular disease (ASCVD)**.

Conclusion: Charting the Path to 2025 and Beyond:

While these advancements offer immense promise, **India's healthcare system** must focus on:

- Strengthening healthcare infrastructure.**
- Expanding health insurance coverage.**



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- **Investing in research and accessibility initiatives** to ensure these life-changing treatments reach those who need them the most.

By embracing these innovations, India can lead the way in transforming global healthcare and ensuring a **brighter, healthier future for all.**



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How Sea Otters are Reviving Coastal Ecosystems

Context: The resurgence of **sea otter populations** in California, particularly in the **Elkhorn Slough National Estuarine Research Reserve**, is transforming coastal ecosystems by controlling the spread of the invasive **green crab**.

Sea Otters: Guardians of the Coast:

A History of Decline and Recovery:

- **Hunted extensively** in the 18th and 19th centuries for their dense, soft fur, sea otters were nearly wiped out.
- They gained **full protection in California** in 1913, but challenges like oil spills and habitat degradation persisted.
- In 1977, sea otters were listed as **threatened and federally protected**, paving the way for population recovery.

Key Traits and Diet:

- Unlike other marine mammals, sea otters rely on their **high metabolism**, not blubber, to stay warm in cold waters.
- They are **voracious predators**, consuming approximately **25% of their body weight daily** to maintain energy levels.
- Their diet includes a wide range of marine life, making them essential in regulating species like the **green crab**.

The Battle Against Green Crabs:

Sea Otters' Role:

- Sea otters consume **50,000 to 120,000 green crabs annually**, providing an effective natural solution to the invasive species problem on the **U.S. West Coast**.

Green Crab: A Global Threat:

Overview of the Invasive Species:

- Known globally as the **shore crab** or **green shore crab**, this species is one of the **"world's worst invasive species"**.
- Native to the **Atlantic Ocean** and **Baltic Sea**, green crabs have spread to regions like **Australia, South America, and South Africa**.

Physical Characteristics:

- Adult crabs feature a carapace width of about **90 mm**.
- Colors range from green to brown, grey, and red, with red crabs being more aggressive due to **delayed moulting**.

Diet and Impact:

- **Diet:** Small crustaceans, mollusks, and worms.
- **Ecosystem Damage:**
 - Destroying **seagrass beds**, which are vital marine habitats.
 - Overhunting prey species, leading to imbalances in the food chain.





- Outcompeting native species for food and habitat.

Conclusion:

The return of sea otters is a shining example of how species restoration can benefit ecosystems. By curbing the spread of the **invasive green crab**, sea otters are not just **preserving biodiversity** but also **protecting coastal habitats**. Their story underscores the power of nature's balance and the importance of conservation efforts.





Rupee Experiences Sharpest Depreciation in Two Years

Context: The Indian rupee recently breached the **85 mark against the US dollar**, marking its most significant depreciation in the last two years.

Exchange Rate: The exchange rate reflects the value of one currency relative to another, essentially acting as the "price" of one currency in terms of another.



Key Drivers of Rupee Depreciation

1. Strengthening US Dollar:

- The **US Federal Reserve's aggressive monetary tightening** has led to **capital outflows from emerging markets**, including India.
- Example: Significant **Foreign Portfolio Investment (FPI) outflows** have been observed.

2. Expanding Trade Deficit:

The trade deficit has widened due to higher imports, particularly **crude oil**, which puts additional pressure on the rupee.

3. Domestic Inflation:

Elevated **inflation rates in India** erode the purchasing power of the currency, further contributing to its depreciation.

Impact of the Rupee's Weakening:

Negative Consequences:

1. **Increased Import Costs:** A weaker rupee makes imports, especially **crude oil**, more expensive, adding to the **trade deficit**.
2. **Costlier Foreign Debt:** Companies and the government face higher costs in servicing foreign-denominated loans.
3. **Inflationary Pressures:** Higher import costs can lead to **domestic inflation**, reducing purchasing power.

Positive Outcomes:

1. **Boost to Exports:** Indian goods and services become more affordable in global markets, enhancing their **competitiveness**.
2. **Increased Remittance Value:** **Non-Resident Indians (NRIs)** benefit as the value of money sent home increases in rupee terms.

Strategies to Stabilize the Rupee:

1. **Direct Dollar Sales:** **RBI intervention** can increase the supply of US dollars in the forex market, providing support to the rupee.
2. **Forex Swaps:** The Reserve Bank can employ **buy-sell swaps** to manage dollar liquidity without significantly depleting forex reserves.
3. **Attracting Foreign Investments:** **Policy incentives** like tax benefits can encourage **Foreign Direct Investment (FDI)** and portfolio inflows, strengthening the rupee.

Conclusion: The rupee's depreciation reflects a combination of **global economic dynamics** and domestic challenges. While it brings certain benefits, such as improved export competitiveness, the broader implications on inflation and trade deficits call for **proactive measures** by policymakers and the central bank to stabilize the currency and support economic resilience.

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**Parker Solar Probe: Humanity's Closest Encounter with the Sun**

Context: NASA's **Parker Solar Probe** has become the **first human-made object** to fly so close to the Sun, performing a solar flyby at its **perihelion**.

- **Perihelion:** The point in an orbit where a celestial body is closest to the Sun.
- Its opposite is **Aphelion**, the farthest point from the Sun.



During this record-breaking journey, the spacecraft achieved a staggering speed of **700,000 kilometers per hour**, making it the **fastest human-made object** ever.

Guided by Venus:

The probe used **gravitational assists from Venus** to adjust its trajectory, allowing it to approach the Sun's atmosphere more closely with each flyby.

About the Parker Solar Probe (Launched in 2018):**Mission Objective:**

To explore the **outermost layer of the Sun's atmosphere**, known as the **corona**, and enhance our understanding of **solar wind**—a continuous flow of charged particles emitted by the Sun.

Key Scientific Tools:

- **FIELDS Experiment:** Measures electric and magnetic fields.
- **IS²IS** (Integrated Science Investigation of the Sun): Studies energetic particles in the solar environment.

Why Study Solar Activity?**1. Decoding Space Weather:**

- Solar phenomena, such as **solar flares** and **coronal mass ejections (CMEs)**, can create **space weather events** capable of disrupting:
 - **Satellite communications**
 - **GPS systems**
 - Other space-based technologies

2. Safeguarding Technology and Infrastructure:

- **Geomagnetic storms** caused by solar activity can induce electric currents in power grids, leading to:
 - **Power blackouts**
 - **Damage to electrical equipment**

3. Astronaut Protection:

- Studying solar activity helps in devising protective measures for astronauts exposed to harmful solar radiation during space missions.

Conclusion:

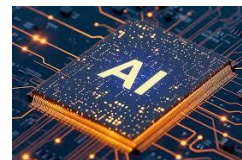
The Parker Solar Probe's groundbreaking journey is transforming our understanding of the **Sun's mysteries**. By studying solar activity up close, it paves the way for better forecasting of space weather, protection of technological assets, and ensuring the safety of future space exploration missions.

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RBI's FREE-AI Committee: A Step Towards Ethical AI in Finance

Context: The **Reserve Bank of India (RBI)** has established a specialized committee named **FREE-AI** to develop a comprehensive framework for the **responsible and ethical implementation of Artificial Intelligence (AI)** in the financial sector.

**What is the FREE-AI Committee?**

The **FREE-AI Committee** is an **eight-member panel** tasked with creating guidelines for the ethical and responsible adoption of AI within financial services.

Key Highlights:

- **Leadership:** The committee is chaired by **Pushpak Bhattacharyya**, Professor at the Department of Computer Science and Engineering, IIT Bombay.
- **Members:**
 - Representatives from **NITI Aayog**
 - Experts from **HDFC Bank** and **IIT Madras**
 - Officials from the **Ministry of Electronics and Information Technology**
 - Specialists from **law firm Trilegal** and **Microsoft India**
- **Support:** Backed by the **RBI's Fintech Department**.
- **Timeline:** The committee is required to submit its report **within six months** from its first meeting.

Objectives of the Committee:**1. Assess AI Adoption:**

- Evaluate the **current level of AI adoption** in India's financial services sector.
- Study the **global regulatory and supervisory approaches** to AI, particularly in financial systems.

2. Create an Ethical Framework:

- Propose a framework to ensure **responsible and ethical use of AI models** in the financial domain.
- Focus on governance aspects to prevent misuse and maintain transparency.

3. Risk Identification and Mitigation:

- Identify potential **risks and challenges associated with AI** in financial services.
- Recommend strategies for **evaluation, mitigation, and monitoring** of these risks by regulated entities.

Significance of the FREE-AI Initiative:

1. **Boosting Trust in AI Systems:** Developing a governance framework will help build **public confidence** in AI-driven financial systems.
2. **Enhancing Regulatory Preparedness:** The recommendations will enable the RBI to **stay ahead of emerging risks** and guide financial institutions in adopting AI responsibly.
3. **Fostering Innovation with Responsibility:** The initiative ensures that while financial institutions leverage AI for innovation, it is done in a manner that is **transparent, ethical, and safe**.



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Conclusion: The **FREE-AI Committee** represents a forward-looking approach by the RBI to embrace AI in the financial sector while ensuring its **responsible and ethical implementation**. By balancing innovation with governance, this initiative is set to redefine the future of AI in India's financial ecosystem.



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Exercise SURYA KIRAN: Strengthening India-Nepal Military Bonds

Context: The **17th edition** of the joint military exercise **SURYA KIRAN** is scheduled to take place in **Pithoragarh, Uttarakhand**, from **24th November to 7th December 2023**. This collaborative drill aims to strengthen the longstanding military cooperation between **India and Nepal**.



What is Exercise SURYA KIRAN?

A Bilateral Initiative:

- **SURYA KIRAN** is a joint military exercise conducted annually between the **Indian Army** and the **Nepal Army**.
- The exercise is conducted **alternately in both countries**, fostering a spirit of collaboration and camaraderie.

Objectives:

1. **Enhance Interoperability:** Focuses on conducting operations such as **jungle warfare**, **counter-terrorism in mountainous terrains**, and **humanitarian assistance** under the **United Nations Charter**.
2. **Operational Skill Development:** Through diverse war games, both forces refine their combat skills, share best practices, and improve coordination.
3. **Knowledge Exchange:** Provides a platform for soldiers to **share experiences**, learn from each other, and align their operational strategies.

17th Edition Highlights:

- **Location:** Pithoragarh, Uttarakhand, India.
- **Focus Areas:** Jungle warfare, counter-terrorism, and disaster relief.
- Strengthens the historical and military bonds between India and Nepal.

Looking Ahead: 18th Edition:

Venue and Leadership:

- **Location:** Saljhandi, Nepal.
- **Indian Contingent:** Represented by a battalion of the **11th Gorkha Rifles**.
- **Nepalese Contingent:** Represented by the **Srijung Battalion**.

Significance:

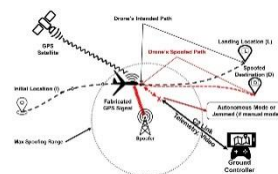
The upcoming edition aims to further solidify the cooperation between the two nations and enhance their readiness for challenging scenarios.

Conclusion:

Exercise SURYA KIRAN symbolizes the strong military partnership and shared commitment between **India and Nepal** to regional security and humanitarian efforts. With its focus on skill-building and mutual understanding, the exercise continues to serve as a cornerstone of bilateral defense cooperation.

GPS Spoofing: A Growing Threat to Navigation and Security

Context: Instances of **GPS interference**, including the use of **spoofing techniques** that transmit false signals, are increasingly reported near **conflict zones worldwide**. Notably, such occurrences have also been detected along **India's borders with Pakistan**, raising alarms about the security and reliability of GPS-based systems.



What is GPS Spoofing?

Definition:

- **GPS Spoofing** (also called GPS simulation) is a cyberattack technique that manipulates GPS receivers by broadcasting **fake GPS signals**.
- The result? Devices are misled into detecting an incorrect location, undermining the reliability of GPS-based navigation and data.

Impact:

GPS spoofing poses serious risks, from **disrupting navigation systems** to **compromising time synchronization**—critical for aviation, shipping, military, and civilian applications.

How Does GPS Spoofing Work?

1. Exploitation of Weak Signals:

- **GPS signals** transmitted by satellites to Earth are inherently **weak**.
- Spoofers exploit this vulnerability by overwhelming the genuine signals with stronger, counterfeit signals.

2. The Attack Process:

- The attacker studies the **target's GPS setup**, understanding the signals it uses and how they are processed.
- Counterfeit signals, designed to mimic authentic GPS signals, are broadcast at higher strength.
- **Result:** The receiver prioritizes the fake signals, causing it to calculate an incorrect location.

Why is GPS Spoofing a Concern?

- **Navigation Failures:** Misleading location data can disrupt aircraft, ships, and ground transport, jeopardizing safety.
- **Military Implications:** Spoofing can mislead drones, missiles, or other GPS-reliant military technologies.
- **Economic Impact:** Industries relying on GPS for logistics and operations face significant disruptions.
- **Security Risks:** Spoofing in conflict zones can escalate tensions or hinder responses to emergencies.

Conclusion:

The rising cases of **GPS spoofing** highlight the need for **enhanced cybersecurity measures** and **robust GPS signal verification systems**. As the technology underpinning global navigation becomes more critical, protecting it from manipulation will be paramount to ensuring safety, security, and reliability in an interconnected world.



Lothal: A Global Beacon of Maritime Heritage

Context: Lothal, an ancient gem of the **Indus Valley Civilization**, is set to emerge as a global hub for **maritime heritage** with the creation of the **National Maritime Heritage Complex (NMHC)** in Gujarat.



This visionary project, led by the **Ministry of Ports, Shipping, and Waterways** under the **Sagarmala Programme**, aims to celebrate India's rich maritime past while driving economic and cultural progress.

The Historical Brilliance of Lothal:

Maritime Excellence of the Past:

- Dating back to **2400 BCE**, Lothal was a thriving center of the **Harappan Civilization**.
- Famous for its **advanced dockyard**, extensive **trade networks**, and expertise in **bead-making**, Lothal showcased exceptional craftsmanship and strategic acumen.
- Artefacts such as **seals, tools, and pottery** reveal a flourishing cultural and economic ecosystem.

A Trade Powerhouse:

- Lothal was not just a city but a **strategic maritime hub**, connecting regions through its efficient **maritime infrastructure**.

National Maritime Heritage Complex (NMHC):

A Visionary Initiative:

The NMHC is designed as a **world-class facility** that blends **education, tourism, and cultural preservation**.

Key Features:

- Interactive "Edutainment" Experience:** Engages visitors through a unique blend of **education and entertainment**, showcasing maritime history from the ancient Harappan era to the modern age.
- Advanced Infrastructure:**
 - Lothal Jetty Walkway:** A landmark attraction.
 - Museum Block:** To house priceless artefacts and stories of India's maritime journey.
 - INS Nishank:** A decommissioned warship, symbolizing India's naval prowess.

Progress So Far:

- Over **65% of construction** is complete.

Socio-Economic Impact:

- Tourism Boom:** Expected to draw **domestic and international visitors**.
- Employment Opportunities:** Creating jobs and empowering local youth through **skill development programs**.
- Global Maritime Education:** A platform for learning and collaboration in the **global maritime community**.

Government Efforts and Collaboration:

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**Sagarmala Programme:**

- A flagship initiative to **modernize India's maritime infrastructure** and drive **port-led economic growth**.

Collaborative Approach:

- Partnerships with the **Ministry of Defence, Indian Navy, Coast Guard**, and the **Government of Gujarat** ensure a high-quality and inclusive development process.

Community Involvement:

- Actively includes **local communities**, fostering a sense of ownership and shared progress.

Why Lothal Matters:**Tourism and Learning:**

- The **NMHC** will position Lothal as a global hub for **maritime education** and **tourism**, preserving India's maritime legacy.

Economic Growth:

- Contributing to India's global presence by boosting **economic and cultural advancements**.

International Collaboration:

- Serves as a bridge between **India's maritime industry** and the **global maritime sector**, opening avenues for partnerships and knowledge exchange.

Conclusion:

The **National Maritime Heritage Complex** at Lothal is more than a tribute to India's rich maritime heritage—it's a bold step toward integrating history with economic, educational, and cultural progress.

This project not only honors Lothal's legacy but also reaffirms India's ambition to become a global leader in maritime excellence.



Navigating India's Foreign Policy Maze in 2025

Context: Following the start of **Prime Minister Modi's third term in June 2024**, India's foreign policy witnessed intense activity amidst a backdrop of **global insecurity** and **regional tensions**, particularly in **Bangladesh**.



With **2025** expected to bring even more unpredictability, India's diplomacy must remain agile to navigate emerging challenges effectively.

Key Milestones in India's External Relations:**India-China Relations: A Step Forward:**

- The **disengagement at the Line of Actual Control (LAC)** with China was one of 2024's most sensitive negotiations.
- A significant breakthrough came during the **Modi-Xi Jinping meeting** at the BRICS Summit in Russia—their first interaction in five years.

Deepening Ties with France:

- **French President Emmanuel Macron** graced India's **Republic Day celebrations**, underscoring growing cooperation in **defense, energy, and maritime sectors**.
- Although efforts to host **U.S. President Biden** for the **Quad Summit** did not materialize, Macron's visit reinforced the reliability of bilateral ties.

Progress on Trade Agreements:

- The **India-European Free Trade Association (EFTA) Agreement**, finalized in early 2024, set a precedent for future **free trade agreements (FTAs)**.
- However, progress on deals with **Australia**, the **U.K.**, and the **EU** remained stalled by year-end.

Diplomatic Engagements in the Neighborhood:

- PM Modi's **swearing-in ceremony** saw the participation of leaders from most neighboring countries, except **Pakistan**.
- Relations improved with **Sri Lanka, Maldives, and Bhutan**, marked by high-profile exchanges and diplomatic visits.

Challenges that Dominated 2024:**Strained Ties with Bangladesh:**

- The removal of **Prime Minister Sheikh Hasina** in August triggered a diplomatic rift.
- Rising attacks on **Hindu minorities** and Hasina's subsequent stay in India added to tensions.

Deteriorating Relations with Canada:

- Allegations of India's involvement in the **killing of Hardeep Singh Nijjar** led to a diplomatic freeze.
- **Home Minister Amit Shah's** alleged involvement further strained ties, with India awaiting potential political changes in **Canada** in 2025.

Legal and Diplomatic Tensions with the U.S.:

- Accusations against the **Adani Group** and India's alleged link to the **Pannun assassination plot** strained India-U.S. relations.



- However, the election of **President Donald Trump**, known for his pro-India stance, offers hope for a reset in bilateral ties.

China's Expanding Influence in South Asia:

- **China's growing footprint in Nepal** and its engagement with **Bangladesh** continue to challenge India's strategic interests in the region.

How India Managed Global Conflicts:

Neutrality in Global Conflicts:

- India advocated for peace while staying neutral during the **Russia-Ukraine war** and **Israel-Gaza conflict**.
- PM Modi's visits to **Russia** and **Ukraine** fueled speculation about India's potential role as a mediator.
- While condemning civilian casualties in Gaza, India refrained from explicitly holding **Israel** accountable at the UN.

Shifting Focus in West Asia:

- With initiatives like **IMEC** and **I2U2** facing hurdles, India turned to bilateral engagements with West Asian countries.
- Managing tensions between **Iran** and the **Israel-U.S. alliance** will be a priority in 2025.

The Diplomatic Roadmap for 2025:

Strengthening India-U.S. Ties:

- External Affairs Minister **Jaishankar's** engagement with the **Trump transition team** signals a strong focus on the U.S. in 2025.
- Key highlights include **President Trump's visit** for the Quad Summit and a potential PM Modi trip to **Washington**.

Focus on Iran and Emerging Technologies:

- Early 2025 will see a high-level visit from **Iran**, followed by U.S. **NSA Jake Sullivan's** trip for discussions on **critical and emerging technologies (iCET)**.

High-Profile Visits:

- **Indonesian President Prabowo Subianto** will be the chief guest for **Republic Day**, while **Russian President Vladimir Putin** is expected to visit India for the first time since the war began.

Conclusion:

India's foreign policy in **2025** must be prepared to adapt to dynamic global and regional developments. By balancing relations with major powers, addressing neighborhood challenges, and leveraging strategic opportunities, India aims to cement its position as a key player on the global stage.

The South Asian Economic Union: A Vision for Regional Prosperity

Context: The **South Asian Economic Union (SAEU)** remains a long-term ambition in the face of complex **geopolitical** and **economic** challenges within the region. Despite its aspirational status, the SAEU presents a potential path to enhanced economic cooperation across the South Asian region.



What is the South Asian Economic Union?

Definition:

The **South Asian Economic Union** is a vision of the **South Asian Association for Regional Cooperation (SAARC)** aimed at integrating the economies of its eight member states: **Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka**.

Objective:

The primary goal of the SAEU is to foster **regional trade, investment, connectivity**, and economic cooperation through a phased integration of markets across the member countries.

Foundation:

The SAEU builds upon existing frameworks like **SAFTA (South Asian Free Trade Area)**, established in **2006**, which works towards reducing tariffs and promoting **free trade** among the nations.

Pillars of Integration:

The **key pillars** for regional integration include:

- **Market integration**
- **Cross-border connectivity**
- **Energy cooperation**
- **Private sector liberalization** (according to an ADB Report)

Trade Dynamics Among SAARC Members:

Current State of Trade:

- **Intra-regional trade** remains low, accounting for less than **5%** of formal trade among SAARC nations.
- **India's dominance:** India contributes **73%** of intra-regional exports, but imports only **13%**, creating significant **trade imbalances**.

Trade Imbalances:

- Smaller nations like **Bhutan, Afghanistan, and Nepal** heavily depend on intra-regional exports, with shares of **82%, 67%, and 71%**, respectively.
- Trade barriers, including **non-tariff barriers (NTBs)** and **safeguard measures**, continue to hinder effective trade liberalization under SAFTA.

The Role of Regional Partnerships in Economic Integration:

BIMSTEC's Role:

- **BIMSTEC (Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation)** plays a key role in promoting **regional connectivity** and economic cooperation.



- BIMSTEC serves as a bridge between **South Asia** and **Southeast Asia**, facilitating infrastructure projects like the **BIMSTEC Master Plan for Transport Connectivity**.
- The initiative enhances cooperation in sectors like **energy, tourism, and technology**, strengthening regional economic integration.

SAARC's Contribution:

- SAARC's establishment of the **South Asian Free Trade Area (SAFTA)** is pivotal in reducing tariffs and promoting intra-regional trade, laying the groundwork for deeper economic integration.
- **Policy harmonization** across member states is crucial to creating a unified regional market, enabling smoother economic cooperation.

India's Initiatives to Enhance Regional Economic Cooperation:

- **Neighbourhood First Policy:** India's **Neighbourhood First Policy** emphasizes strengthening ties with SAARC nations through both **bilateral** and **multilateral agreements**, aiming to enhance regional economic stability.
- **Key India-Sri Lanka Initiatives:** Expansion of the **India-Sri Lanka Free Trade Agreement** and development of **Trincomalee** as a potential **energy hub** are key components of regional cooperation.
- **Energy Connectivity:** Projects like the **Bangladesh-Bhutan-India-Nepal (BBIN) energy grid** are vital to enhancing **regional power trade** and boosting energy cooperation across borders.
- **Infrastructure and Digital Connectivity:**
 - Infrastructure projects such as the **Kaladan Multimodal Transit Transport Project** and improved **road corridors** with Myanmar and Bangladesh are essential for improving trade routes.
 - India's push for **digital connectivity** and **e-governance** in neighboring countries also facilitates smoother trade and investment flows.

Challenges to the South Asian Economic Union:

- **Political Tensions:** **India-Pakistan relations** remain a core issue, while Nepal's involvement with **China's Belt and Road Initiative** adds another layer of complexity to regional dynamics.
- **Trade Imbalances:** India's **export dominance** and limited imports from other SAARC nations create economic disparities, which could undermine the goal of regional integration.
- **Non-Tariff Barriers:** **Restrictive trade policies** and the absence of harmonized trade regulations remain obstacles to effective liberalization and regional economic growth.
- **Infrastructure Gaps:** Poor **transport and logistics infrastructure** hinder effective cross-border trade, necessitating significant investment in connectivity projects.
- **Economic Disparity:** Diverging **economic policies** and varying **development levels** among SAARC members complicate efforts towards seamless integration.

The Road Ahead for the South Asian Economic Union:

- **Strengthening SAFTA:** To boost regional trade, there is a need to revise and simplify **trade agreements**, eliminate **non-tariff barriers**, and encourage **fair trade practices**.
- **Boosting Connectivity:** Key investments in **transport corridors, energy grids, and digital infrastructure** are essential to facilitate smoother trade flows and economic cooperation.
- **Addressing Political Issues:** Resolving political tensions through **multilateral dialogues** and fostering mutual trust among SAARC nations will be vital for integration.



- **Leveraging the Private Sector:** Encouraging **private sector involvement** in regional projects will drive innovation and facilitate investment in integration efforts.
- **Promoting Inclusivity:** Ensuring **equitable** policies to balance the **economic disparity** between larger and smaller nations will be key to ensuring that all countries benefit from integration.

Conclusion: A Vision for the Future

The creation of a **South Asian Economic Union** holds immense potential to transform the region's economic landscape, but achieving this vision will require overcoming longstanding political, economic, and infrastructural challenges. Through continued efforts, cooperation, and strategic initiatives, the dream of a unified South Asia could become a reality, leading to a more prosperous and interconnected region.





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.



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.



2. **Judicial Immunity:** Judges enjoy significant immunity, allowing them to **resign to evade formal proceedings**, a privilege greater than that of elected officials.
3. **Lack of Transparency:** The **opaque functioning of the collegium system** in appointing and transferring judges undermines public trust in the judiciary.
4. **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:

1. **Strengthening Internal Mechanisms:** Develop a robust internal oversight body within the judiciary to address complaints promptly.
2. **Transparent Appointment Processes:** Ensure **participatory and open procedures** in the appointment and transfer of judges.
3. **Public Disclosure:** Mandate judges to disclose their **assets and liabilities**, improving transparency and accountability.
4. **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.



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.



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:

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.

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**.



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**.

Download Our Application





- **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.

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**.



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.**

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.



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.

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.



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:

- Strengthening Infrastructure:** Enhance **digital connectivity** in remote areas and provide **training programs** to improve digital literacy among researchers and students.
- Phase-Wise Expansion:** Gradually broaden ONOS to include more journals, databases, and resources in **regional languages** for inclusive growth.
- 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**.

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**.



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:**

- **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.

**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:**

- 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.

**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.



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:

- 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::

- Affordable Premiums:** Farmers pay **2%** for **Kharif crops**, **1.5%** for **Rabi crops**, and **5%** for commercial and horticultural crops.
- Area-Based Implementation:** The scheme operates on an **area approach basis**, with the **village/village panchayat** as the unit for major crops.
- No Cap on Subsidy:** The government bears the **entire balance premium**, even if it exceeds **90%**.
- Technological Integration:** Use of **smartphones** for real-time crop data and **remote sensing** for yield estimation, reducing delays in claim settlements.
- 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.

**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):**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.



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 (CO₂):** 80.53%
- Methane (CH₄):** 13.32%
- Nitrous Oxide (N₂O):** 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 CO₂** 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:

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**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)**

5. National Climate Programs:

- 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**.

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:

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- 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.

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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:

- 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.

**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:

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

Job Offer Requirement:

- 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.

