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INDIA'S NORTHEAST- KOLKATA LINK VIA MYANMAR

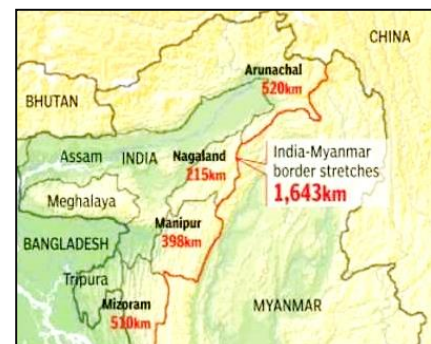
News: India's decision to establish a **direct link between the Northeast and Kolkata** via Myanmar, bypassing Bangladesh, marks a strategic shift in regional connectivity.

KEY ASPECTS OF INDIA'S NORTHEAST & MYANMAR

- **Geostrategic Significance:** Northeast India shares over 5,300 km of international borders with Bhutan, Bangladesh, China, and Myanmar. It is a vital gateway for India's Act East Policy.
- **Connectivity Challenges:** The region is linked to the Indian mainland via the narrow and vulnerable Siliguri Corridor ("Chicken's Neck").
- **Myanmar's Role:** Myanmar acts as a land bridge between India and Southeast Asia. It shares a 1,643 km border with Arunachal Pradesh, Nagaland, Manipur, and Mizoram.
- **Trade & Security Nexus:** Myanmar offers transit potential but also poses security risks due to insurgent groups operating near the border.
- **Historical Linkages:** Cultural, ethnic, and trade linkages between northeast Indian tribes and Myanmar communities bolster people-to-people ties.
- **Geopolitical Shift:** With Bangladesh placing constraints on trade routes and China's influence rising in Myanmar, India is reasserting its strategic investments, like the KMTTP.

KALADAN MULTIMODAL TRANSIT TRANSPORT PROJECT (KMTTP)

- **Objective:** Provide alternative connectivity to India's northeastern states (esp. Mizoram) from Kolkata via Myanmar, bypassing the Siliguri Corridor.
- **Launched:** 2008, bilateral project between India and Myanmar.



- **Total Project Cost:** Estimated at USD 484 million.

PROJECT COMPONENTS :

- **Sea Route:**
 - Kolkata Port → Sittwe Port (Myanmar): ~539 km
 - Port at Sittwe developed by India, inaugurated in 2023.
- **Inland Waterway:**
 - Sittwe → Paletwa (Myanmar): ~158 km via Kaladan River
 - Aims to reduce road dependence in difficult terrain.
- **Road Segment:**
 - Paletwa → Zorinpui (India-Myanmar border in Mizoram): ~110 km
 - Under construction; affected by conflict and terrain.



BENEFITS :

- Reduces distance from Kolkata to Northeast by over 1,000 km.
- Facilitates movement of goods, services, and energy infrastructure.
- Strengthens Act East Policy and Look East connectivity.
- Boosts economic potential in underdeveloped northeast states.

STRATEGIC LINKAGES :

- Complements BIMSTEC and India-Myanmar-Thailand Trilateral Highway.
- Counters Chinese influence in Myanmar through infrastructure diplomacy.

WHY THE NORTHEAST-KOLKATA LINK VIA MYANMAR IS SIGNIFICANT

BYPASSING THE SILIGURI CORRIDOR:

- Siliguri is a 22 km wide strip prone to congestion and blockade.
- KMTTP offers strategic redundancy in case of disruption.

ECONOMIC INTEGRATION OF THE NORTHEAST:

- Reduces transportation costs and transit time for goods.
- Promotes industrial development in Mizoram, Tripura, Manipur.
- Example: Bamboo, ginger, and handicrafts from Mizoram can be exported more efficiently.

STRENGTHENING INDIA-ASEAN TRADE:

- Myanmar is a bridge to ASEAN; enhanced connectivity boosts bilateral and multilateral trade.
- India's exports to ASEAN stood at over USD 42 billion (2022-23).

STRATEGIC DIVERSIFICATION:

- Reduces dependence on Bangladesh and mitigates geopolitical risks.
- Provides India with leverage in foreign policy.

SECURITY AND DEVELOPMENT SYMBIOSIS:

- Development projects help contain insurgency by providing employment.
- Infrastructure presence increases state authority in border areas.

ACT EAST AND NEIGHBOURHOOD FIRST POLICIES:

- KMTTP is a keystone project under Act East.
- Enhances goodwill with Myanmar despite current political instability.

GEOPOLITICAL COUNTERBALANCE TO CHINA:

- China has deepened its influence in Myanmar via Belt and Road.
- Indian projects like KMTTP provide a democratic development alternative.
- **Example:** India's investment in Sittwe Port rivals China's Kyaukpyu port.

DISASTER MANAGEMENT AND MILITARY MOBILITY:

- Alternate route enhances evacuation and military logistics during emergencies.
- Helps in deploying resources quickly to remote northeastern locations.

CHALLENGES WITH MYANMAR ROUTE

SECURITY CONCERNS:

- Presence of insurgent groups like NSCN-K, Arakan Army.
- India-Myanmar joint military operations (e.g., Operation Sunrise) are essential.

POLITICAL INSTABILITY:

- The 2021 military coup in Myanmar disrupted democratic governance.
- International sanctions complicate formal cooperation.

INFRASTRUCTURE DELAYS:

- Tough terrain, land acquisition, and logistics hurdles.
- Road construction from Paletwa to Zorinpui has faced repeated delays.

ETHNIC CONFLICT:

- Ongoing civil unrest between the Myanmar military and ethnic armed organizations.
- Work halts due to safety issues.

DEPENDENCE ON MYANMAR'S INTERNAL POLITICS:

- India must navigate carefully without alienating either the junta or opposition.

COST OVERRUNS AND CORRUPTION:

- Delays have led to rising costs and allegations of mismanagement.

CURBING BANGLADESHI EXPORTS VIA LAND PORTS

BACKGROUND :

- In 2024, India imposed restrictions on imports from Bangladesh through land ports.
- Targeted goods worth over USD 770 million (~42% of total imports).

REASONS :

- **Reciprocal Action:**
 - Bangladesh imposes trade barriers on Indian exports.
 - India demands fair treatment.
- **Curbing Dumping:**
 - Concerns over cheap Bangladeshi textiles undercutting Indian producers.
 - Preventing indirect entry of Chinese goods via Bangladesh.
- **Boosting Domestic Industry:**
 - Encouraging self-reliance in garments, ceramics, FMCG.
 - Reducing trade deficit with Bangladesh.

EXAMPLE :

- The Confederation of All India Traders (CAIT) supported the move to restrict non-essential imports.
- Indian textile manufacturers gained a competitive edge.

CONSEQUENCES :

- Short-term trade disruption but long-term strategic benefits.
- Urges Bangladesh to ease Indian exports via fair agreements.

ADDITIONAL UPSC-CENTRIC ASPECTS

- **KMTTP Completion Deadline:** Targeted for late 2025.
- **Northeast Economic Potential:** 75% of India's bamboo, high hydroelectric capacity.
- **India-Myanmar Border Management:** Border Fencing & Free Movement Regime reforms.
- **India's Act East Trade Growth:** India's trade with ASEAN was USD 131 billion in 2022.

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GOVERNMENT SCHOOL ENROLMENT DROPS IN 23 STATES

News: A significant decline in government school enrolments across 23 Indian states and Union Territories during the 2024–25 academic year has raised concerns within the Ministry of Education (MoE). The most substantial drops were observed in Uttar Pradesh (21.83 lakh students), Bihar (6.14 lakh), Rajasthan (5.63 lakh), and West Bengal (4.01 lakh)

ABOUT

- The **drop first came to light late last year in the UDISE+ report for 2023-24**, which pointed to a sharp fall of around 1.5 crore in overall school enrolment (government and private) compared to the 2018-19 to 2021-22 average.
 - PM-POSHAN minutes show the **trend continuing into 2024-25**, triggering fresh concern in the government.
- **At least eight witnessed declines exceeding 100,000:** led by Uttar Pradesh (21.83 lakh), Bihar (6.14 lakh), Rajasthan (5.63 lakh) and West Bengal (4.01 lakh).

ENROLMENT DIP: TOP 5 STATES

STATE	ENROLMENT		DROP
	2023-24	2024-25	
UP	1.74 crore	1.52 crore	21.83 lakh
Bihar	1.79 crore	1.73 crore	6.14 lakh
Rajasthan	62.65 lakh	57.02 lakh	5.63 lakh
West Bengal	1.17 crore	1.13 crore	4.01 lakh
Karnataka	43.49 lakh	41.33 lakh	2.15 lakh

- **Compared to 2023-24**, Karnataka saw its enrollment fall by around 2 lakh; Assam by 1.68 lakh, Tamil Nadu by 1.65 lakh and Delhi by 1.05 lakh.

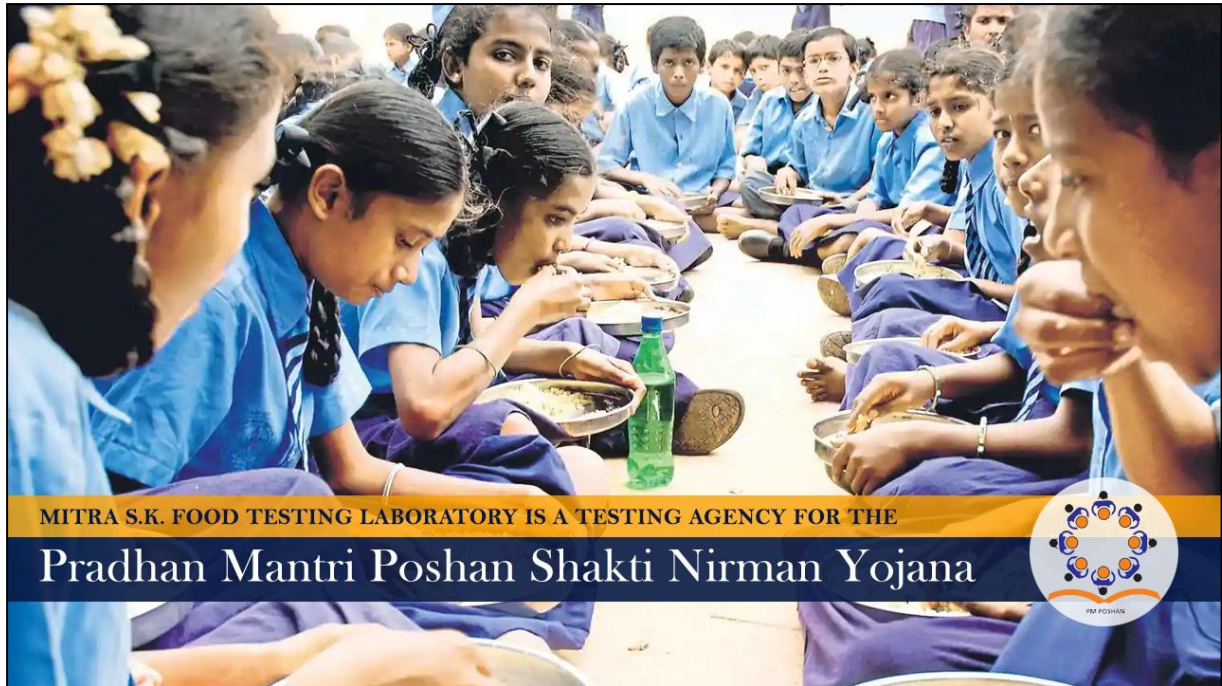
- **The PM-POSHAN meetings flagged low scheme coverage:** In Delhi, the number of students availing midday meals fell by 97,000 in 2024-25 versus 2023-24.
 - In Uttar Pradesh, meal coverage dropped by 5.41 lakh students, by 3.27 lakh in Rajasthan and 8.04 lakh in West Bengal.
 - Some States reported students bringing their own tiffin.

KEY REASONS FOR THE DECLINE

- **Removal of 'Ghost Students':** Efforts to eliminate duplicate or non-existent student records have led to a reduction in inflated enrolment figures. For instance, Uttar Pradesh's Basic Education Department identified students enrolled in government schools solely to access benefits while actually attending private institutions.
- **Post-Pandemic Shift to Private Schools:** During the COVID-19 pandemic, many students moved to government schools due to financial constraints. As the situation stabilized, there has been a reverse migration back to private schools, particularly in states like Karnataka and Delhi.
- **Infrastructure and Staffing Challenges:** Many government schools, especially in rural and remote areas, suffer from inadequate infrastructure and teacher shortages. For example, in Uttarakhand, several schools operate with minimal staff, leading to declining enrolments as families seek better educational opportunities elsewhere.
- **Midday Meal Scheme Coverage:** A decline in the reach of the PM-POSHAN (midday meal) scheme has been noted. In Delhi, only 60% of Balvatika students, 69% of primary, and 62% of upper-primary students received meals in 2024–25, which is below the national average.

PRADHAN MANTRI POSHAN SHAKTI NIRMAN (PM-POSHAN)

The **Pradhan Mantri Poshan Shakti Nirman (PM-POSHAN)** scheme, formerly known as the Mid-Day Meal Scheme, is a centrally sponsored initiative by the Ministry of Education, Government of India. Launched in 2021, it aims to enhance the nutritional status of school-aged children and encourage school attendance by providing hot cooked meals.



OBJECTIVES

- **Nutritional Improvement:** Enhance the nutritional status of children in government and government-aided schools.
- **Educational Incentive:** Encourage regular school attendance, especially among children from disadvantaged sections.
- **Support During Crises:** Provide nutritional support during summer vacations in drought-affected and disaster-prone areas.

BENEFICIARIES

- Children in **Balvatika (pre-primary)** and **Classes I to VIII** in government and government-aided schools.
- Approximately **11.80 crore** children across **11.20 lakh** schools' benefit from the scheme. Nutritional Standards

- **Primary Students:**
 - Calories: 450 kcal
 - Protein: 12 grams
 - Food Components: 100g food grains, 20g pulses, 50g vegetables, 5g oil.
- **Upper Primary Students:**
 - Calories: 700 kcal
 - Protein: 20 grams
 - Food Components: 150g food grains, 30g pulses, 75g vegetables, 7.5g oil.

IMPLEMENTATION AND MONITORING

- **Funding:** Jointly funded by the central and state governments.
- **Infrastructure:** Construction of kitchen-cum-stores and provision of kitchen devices to schools.
- **Human Resources:** Engagement of cook-cum-helpers for meal preparation.
- **Monitoring:** Use of technology platforms like the Raj Poshan portal for real-time data and coordination.

RECENT DEVELOPMENTS

- **Drought Response:** In Andhra Pradesh, over 2 lakh students in drought-affected areas received mid-day meals during the summer vacation, with the engagement of 5,736 cook-cum-helpers for this initiative.
- **Infrastructure Enhancement:** The state completed construction of 32,347 kitchen-cum-stores and procured 92,214 kitchen device units to support the scheme's implementation.

PUBLIC-PRIVATE PARTNERSHIPS

- Organizations like the **Akshaya Patra Foundation** collaborate with the government to implement the PM-POSHAN scheme,

providing meals to over 2.25 million children across various states and Union Territories.

CHALLENGES AND RECOMMENDATIONS

- **Coverage Gaps:** While primary school coverage is high, upper primary levels in some regions report lower participation.
- **Nutritional Quality:** Ensuring the inclusion of fortified foods and maintaining meal diversity remains a challenge.
- **Infrastructure Needs:** Continuous assessment and enhancement of kitchen facilities and storage are essential.
- **Supply Chain Management:** Efficient procurement and distribution systems are vital to prevent meal disruptions.

PM POSHAN SHAKTI NIRMAN YOJANA

Name Of Scheme	PM Poshan Shakti Nirman Yojana
Beneficiary	Students studying in government and government-aided schools
Number of Beneficiaries	11.8 Crore
Number of Schools	11.2 Crore
Objective	Providing nutritious food to children.
Budget	1.31 Lakh Crore
Official Website	MDM. nic. in

PM POSHAN SHAKTI NIRMAN YOJANA BENEFITS

- 11.20 lakh children studying in government and government-aided schools will get the benefit of the new scheme.

- 11.80 crore children from class I to VIII, besides nursery children will get the benefit of this.
- The Center will provide additional 45000 crores for buying dress grains.
- A budget of about Rs 1.3 lakh crore has been allocated to continue this scheme for a period of five years from the financial year 2021-22 to 2025-26.
- The expenditure of Rs 54061.73 crore will be borne by the Central Government.
- The expenditure of Rs.31733.17 crore will be borne by the state government.

The PM-POSHAN scheme plays a crucial role in addressing child hunger and promoting education in India. Ongoing efforts to improve its implementation and address challenges are essential for its success.



PSLV-C61/EOS-09 MISSION

News: ISRO's Polar Satellite Launch Vehicle (PSLV-C61) mission failed to place the Earth Observation Satellite-09 (EOS-09) into its intended sun-synchronous polar orbit due to a glitch in the rocket's third stage.

- This was ISRO's **101st mission** and the **63rd** using the **PSLV**.
- The EOS-09 satellite carried a **Synthetic Aperture Radar (SAR) payload** designed to capture **all-weather Earth images**.

WHAT IS PSLV?

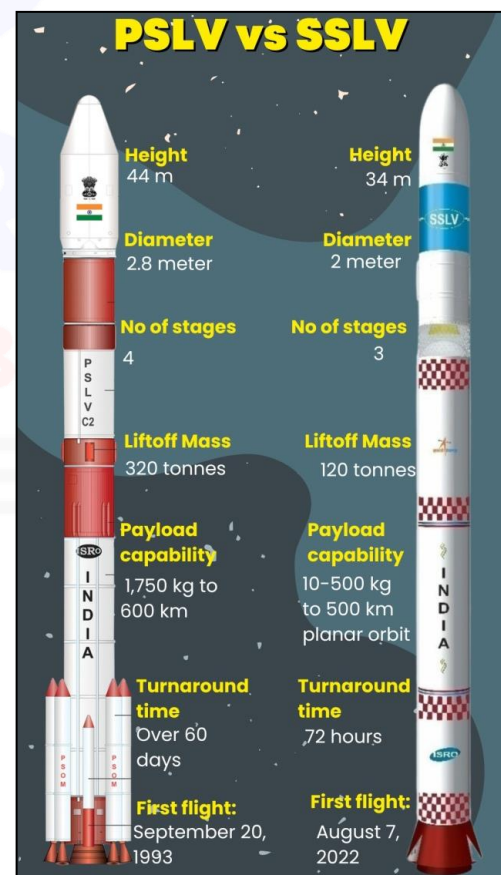
- The **Polar Satellite Launch Vehicle (PSLV)** is a highly reliable and cost-effective **launch vehicle** developed by ISRO.
- It is used to transport satellites into various orbits, including **sun-synchronous**, **geostationary**, and **navigation** orbits.

FUNCTION:

- It carries satellites (payloads) into space, overcoming Earth's gravity through powerful propulsion systems.
- Once the desired orbit is reached, satellites are deployed from the vehicle.

STRUCTURE: PSLV HAS 4 STAGES:

- **PS1:** Solid rocket motor with 6 strap-on boosters.
- **PS2:** Liquid engine (Vikas engine).
- **PS3:** Solid rocket motor for high thrust post-atmospheric phase.
- **PS4:** Two liquid-fuel engines for final orbital insertion.



VARIANTS :

PSLV-XL (with extended strap-ons), PSLV-DL, PSLV-QL, etc., are selected based on payload weight and target orbit.

SIGNIFICANCE :

Known as ISRO's “**workhorse**” due to its versatility and high success rate.

- Used in major missions like **Chandrayaan-1 (2008)** and **Mars Orbiter Mission (2013)**.
- Achieved global recognition by launching **104 satellites in a single mission (PSLV-C37, 2017)**.

EARLIER FAILURE :

- The PSLV has **failed twice** in its history. The first failure was in **1993** (PSLV-D1) due to **software issues**, causing the **IRS-1E** satellite to crash into the ocean.
- The second was in **2017** (PSLV-C39), when a **heat shield separation failure** trapped the **IRNSS-1H** satellite, preventing its deployment into orbit.



WHAT IS EARTH OBSERVATION SATELLITE-09 (EOS-09) ?

- **About: EOS-09**, also called **RISAT-1B**, is an advanced Indian remote sensing satellite equipped with a **C-band Synthetic**

Aperture Radar (SAR) for all-weather, **day-and-night Earth imaging.**

- It is designed for diverse applications including **land-use mapping, hydrology, disaster management, agriculture, forestry, & coastal security.**

KEY FEATURES :

- **All-weather capability:** SAR penetrates clouds, rain, fog, and darkness, ensuring continuous surveillance.
- **High resolution:** Offers up to 1-meter resolution and wide swath coverage (10 to 225 km).
- **Multiple Imaging modes:** Supports five modes like High-Resolution Spotlight and Medium Resolution ScanSAR for varied uses.
- **Dual-use:** Supports both civilian applications and defence surveillance, including monitoring military activity and maritime security.
- **Orbit:** Intended for a sun-synchronous polar orbit for consistent daily coverage.

INDIA-BANGLADESH TRADE RELATIONS

News: India has imposed new port restrictions on **imports from Bangladesh** especially on ready-made garments following Bangladesh's move to block Indian yarn exports via land ports. This marks a significant escalation in trade tensions between the two neighbors.



WHAT HAS TRIGGERED RECENT TRADE FRICTION?

India **restricted imports of Bangladeshi garments** to **protect its domestic textile industry** and **attract labor-intensive manufacturing jobs** to its own economy.

Indian manufacturers have long complained that **Bangladesh enjoys unfair price advantages**, due to:

- **Duty-free fabric** imports from China
- **Export subsidies** by the Bangladeshi government
- **No GST** on imported inputs (compared to India's 5% GST on fabric)
- **Termination of Transshipment Facility:** India ended a five-year-old transshipment arrangement that allowed Bangladesh to use Indian ports and land routes to export goods to third countries. This

was a key logistics channel for Bangladesh's trade with the West, especially the EU and UK.

- **Bangladesh's Port Restrictions:** Bangladesh has restricted India's yarn exports via land ports, now allowing only seaport-based exports. Yarn is vital for Bangladesh's garments industry, and land ports offer quicker, cheaper access.

Indian Seaports Allowed for Certain Bangladesh Exports:

- Kolkata Port – West Bengal
- Nhava Sheva Port (Jawaharlal Nehru Port) – Maharashtra

WHAT ARE THE BENEFITS FOR INDIA?

PROTECTING DOMESTIC INDUSTRY:

By limiting cheap imports from Bangladesh, India aims to:

- Boost its own textile manufacturing
- Attract labor-intensive jobs
- Ensure a level playing field for Indian manufacturers



REVIVING NORTHEAST INDIA'S INDUSTRY:

- Bangladeshi imports through land ports in the Northeast stifle local industry and limit trade to basic agricultural produce.
- By restricting imports via these routes, the government aims to promote self-reliance (Atmanirbhar Bharat) and encourage industrial development in the region.

REBALANCING THE TRADE RELATIONSHIP:

- Bangladesh cannot “cherry-pick” trade benefits while restricting Indian exports.
- The withdrawal of the transshipment facility, which allowed Bangladesh to export to third countries through Indian ports and airports, is also part of this rebalancing effort.

ACCESS TO KEY MARKETS:

- India is signing FTAs with the UK, EU, and EFTA to build alternative garment export routes.
- This also explains why it is less dependent on Bangladeshi textile imports now.

KALADAN MULTI-MODAL TRANSIT TRANSPORT PROJECT:

This shift has forced India to revive and fast-track alternate routes, particularly through Myanmar, via the Kaladan Multi-Modal Transit Transport Project (KMMTTP).

KMMTTP, launched in 2008 as part of India's Look East/Act East Policy, this project is a multi-modal connectivity initiative that links:

- Kolkata (India) to Sittwe Port (Myanmar) by sea (539 km)
- From Sittwe to Paletwa via the Kaladan river (158 km)
- Then by road to Zorinpui (Mizoram) through a 108 km highway
- Finally, it connects to Aizwal and Shillong via existing and planned roads
- Zorinpui is the India-Myanmar border point in Mizoram.

This route bypasses Bangladesh entirely and can cut travel time by 3-4 days and reduce distance by 1,000 km compared to traditional routes through Siliguri.



WHAT ARE THE CONCERNS FOR INDIA?

REGIONAL IMBALANCE :

- This deterioration is not just about trade; it's also about strategic influence and regional balance. India sees Bangladesh as a key buffer and partner in the Northeast.
- Any shift in Dhaka's foreign alignment directly affects India's security, connectivity projects, and regional diplomacy.

LOSS OF INFLUENCE IN A KEY NEIGHBOUR:

- Bangladesh's pivot to China could undermine India's leadership role in the region.
- It may impact India's Act East and Neighborhood First policies.

CHINA INVOLVEMENT :

- China has given duty-free access to 97% of Bangladeshi exports since 2020.
- It has invested heavily in infrastructure (roads, ports, bridges) and is also Bangladesh's main military supplier.
- A USD 2.1 billion deal signed in March 2025 further cemented this strategic realignment.
- Chinese involvement in sensitive projects like the Teesta River development adds to India's concern.

Regional Trade Competition:

- China's support helps Bangladesh stay competitive in garments, even as India tries to boost its own exports under new FTAs.
- India could lose out on labor-intensive FDI if it doesn't become more cost-effective.



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INDIA BANGLADESH RELATIONS

India and Bangladesh share a multifaceted relationship rooted in shared history, cultural ties, and strategic interests. Over the years, this partnership has evolved to encompass various sectors, including trade, defense, connectivity, and regional cooperation. Below is a comprehensive overview of the key aspects of India-Bangladesh relations:



HISTORICAL CONTEXT

- **1971 Liberation War:** India played a pivotal role in Bangladesh's independence from Pakistan, leading to the establishment of strong bilateral ties.
- **1972 Treaty of Friendship, Cooperation, and Peace:** This treaty laid the foundation for mutual cooperation in various sectors.
- **Land Boundary Agreement (LBA) 2015:** Resolved long-standing border disputes by exchanging enclaves, affecting over 50,000 people.



TRADE AND ECONOMIC RELATIONS

- **Trade Volume:** In FY 2023-24, bilateral trade stood at approximately \$14.01 billion, with India exporting goods worth \$11.32 billion to Bangladesh and importing \$1.97 billion.
- **Trade Agreements:** Both countries are members of regional trade agreements like SAFTA, APTA, and SAPTA. India has given duty-free and quota-free access to Bangladeshi exports under SAFTA.
- **Recent Developments:** In May 2025, India imposed restrictions on 42% of imports from Bangladesh, targeting goods worth around \$770 million. This move is seen as a response to Bangladesh's growing trade ties with China and its own restrictions on Indian goods.

DEFENSE AND SECURITY COOPERATION

- **Joint Military Exercises:** The two nations conduct regular joint exercises, such as 'Sampriti' for the army and 'Milan' for the navy, to enhance interoperability.
- **Defense Dialogues:** Annual defense dialogues and staff talks are held to discuss strategic and security issues.
- **Border Management:** Both countries collaborate to address cross-border challenges, including smuggling and illegal migration.



BILATERAL AGREEMENTS

- **Energy Cooperation:** The Bangladesh-India Friendship Pipeline, inaugurated in March 2023, facilitates the transport of diesel from India to Bangladesh, enhancing energy security.
- **Port Usage Agreement:** In 2023, both nations operationalized an agreement allowing India to use Bangladesh's Chittagong and Mongla ports for transit to its northeastern states.
- **Water Sharing:** An MoU was signed in 2022 for the withdrawal of water from the Kushiara River, promoting equitable water resource management.



ENVIRONMENTAL COLLABORATION

- **River Management:** Joint efforts are made to manage shared rivers, focusing on flood control, irrigation, and pollution reduction.
- **Climate Change:** Both countries participate in regional initiatives to address climate change impacts, especially in the Sundarbans region.

TOURISM AND CULTURAL EXCHANGES

- **Visa Facilitation:** India has introduced e-visa facilities for Bangladeshi medical patients and tourists, promoting people-to-people connectivity.
- **Cultural Programs:** Regular cultural exchanges, including festivals and exhibitions, are organized to strengthen cultural ties.

MAJOR CONNECTIVITY PROJECTS

- **Akhaura-Agartala Rail Link:** A 12.24 km cross-border rail link connecting India's northeast to Bangladesh, enhancing trade and connectivity.
- **Khulna-Mongla Port Rail Line:** A 64.7 km railway line connecting Bangladesh's second-largest port to its rail network, facilitating trade with India.
- **Maitri Setu:** A 1.9 km bridge over the Feni River connecting Sab room in Tripura, India, to Ramgarh in Chittagong, Bangladesh, providing a shorter route to Chittagong port.

MULTILATERAL AND REGIONAL COOPERATION

- **SAARC:** Both countries are members of the South Asian Association for Regional Cooperation, promoting economic and regional integration.
- **BIMSTEC:** Membership in the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation enhances collaboration in various sectors.
- **BBIN Initiative:** The Bangladesh-Bhutan-India-Nepal initiative focuses on regional connectivity and trade facilitation.
- **SASEC:** Participation in the South Asia Subregional Economic Cooperation program aims to improve cross-border connectivity and economic cooperation.

NEW CALEDONIA

News: New Caledonia is facing deepened political uncertainty ahead of the November 2025 provincial elections.

ABOUT

- It is classified as a **French overseas collectivity**, enjoying significant autonomy under French sovereignty.
- **Colonised in 1853** by France as a penal colony, its history is marked by resistance from the **Indigenous Kanak population**.
- The **1998 Nouméa Accord** granted autonomy and led to three referendums, all rejecting independence, though the 2021 vote was boycotted by pro-independence groups, casting doubt on its legitimacy.
- The push for **independence continues** due to unresolved historical grievances and contested **political status**.

NEW CALEDONIA

- New Caledonia is located in the Southwestern Pacific Ocean, approximately 1,500 km east of Australia.
- It lies within a geopolitically sensitive area, surrounded by Australia (west), Vanuatu (north), and Fiji (northeast) — placing it within the **Indo-Pacific strategic sphere**.
- The **Nouméa Accord (1998)** granted New Caledonia enhanced autonomy and set the path for independence referendums.
- Under the Noumea Accord signed in 1998, the French State retains sovereignty for defence, foreign affairs, law and order, monetary policy, and tertiary education and research.



PM MODI TO LAUNCH REVAMPED MANUSCRIPTS MISSION

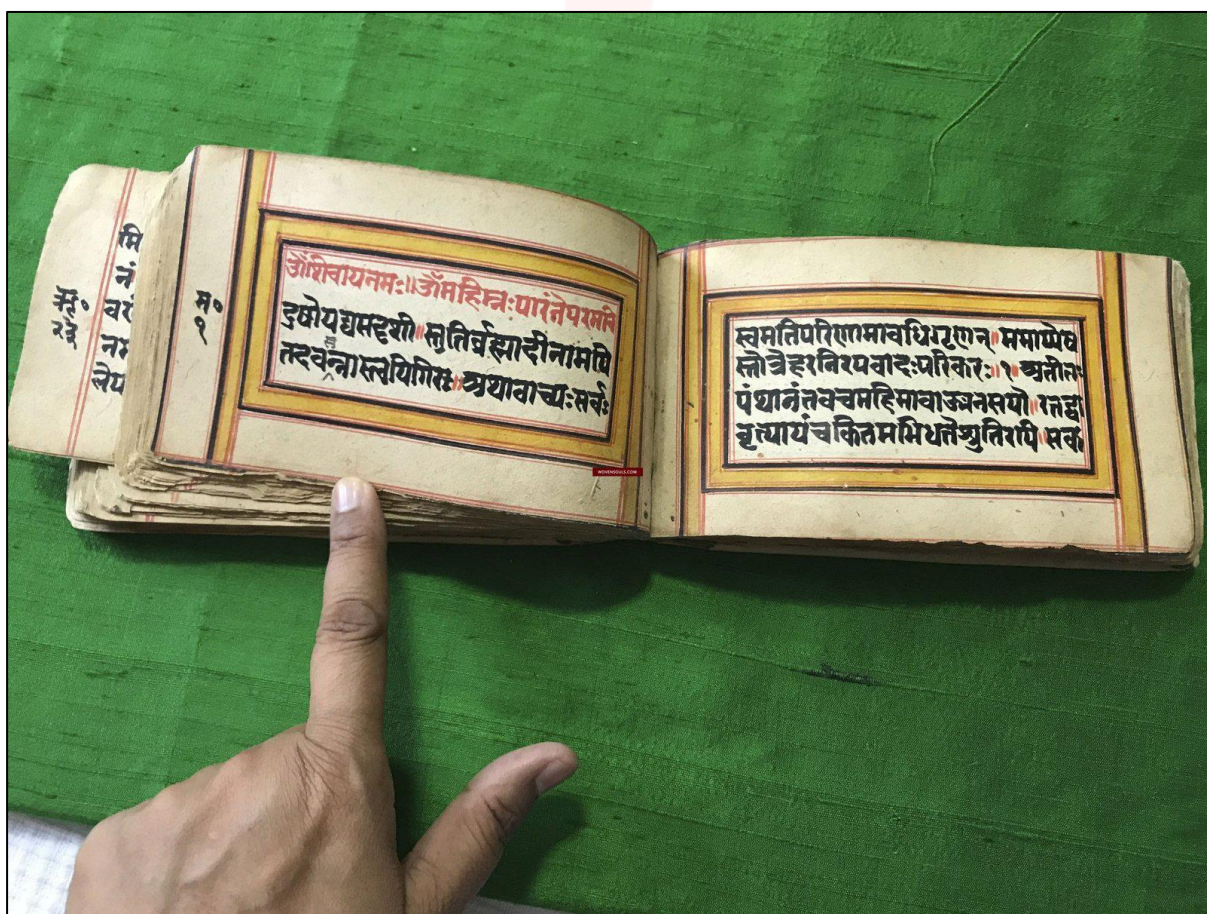
News: The Prime Minister will launch the revamped **National Manuscripts Mission**, which was announced in the Union Budget this year.



ABOUT

- National Mission for Manuscripts (NMM) is aimed to **preserve, document, and disseminate India's rich manuscript heritage.**
- The Mission has been restructured with the nomenclature '**Gyan Bharatam Mission**' as a **Central Sector Scheme** for the period **2024-31.**
- The key objectives of the Mission include:
 - **Survey and Documentation:** Conducting a nationwide survey and registration of manuscripts to maintain a comprehensive record.
 - **Conservation and Preservation:** Scientific conservation and preventive preservation of manuscripts across repositories in India.
 - **Digitization:** Large-scale digitization of manuscripts to create a National Digital Manuscripts Library for wider accessibility.

- **Publication and Research:** Editing, translating, and publishing rare and unpublished manuscripts to promote scholarly research.
- **Capacity Building:** Organizing training programs in manuscript ology, paleography, and conservation to build expertise.
- **Collaboration with Institutions:** Engaging with academic institutions in India and industry leaders for manuscript research and preservation efforts.



CHABAHAR PORT & INSTC

News: National Security Advisor Ajit Doval, in conversation with his Iranian counterpart expressed India's interest in further expanding cooperation in the development of Chabahar port and the International North-South Transport Corridor (INSTC).



ABOUT CHABAHAR PORT

- **Meaning:** Chabahar is made of Persian words **Chahar** meaning four; and **bahar** meaning spring.
 - Chabahar city is also home to Iran's only deep-seaport with direct access to the ocean.
- **Location:** Off the Gulf of Oman in Iran's southeastern province of Sistan-Baluchistan & is the only Iranian port with direct access to the ocean.
 - Only about 170 kilometers west of the **Pakistani port of Gwadar**.
- **Consist of two ports:** Chabahar Port consists of two separate ports called **Shahid Kalantari** and **Shahid Beheshti**.
- **Significance:** Chabahar is important for its fishery sector and will act as an important trade center connecting South Asia, Central Asia, and the Middle East.

- The port gives access to the energy-rich **Persian Gulf nations' southern coast** & Central Asia and India can bypass Pakistan.
- **Chabahar Port** is also quite near the **Gwadar Port of Pakistan** being **developed by China**. Help countering CPEC; strengthening maritime power.

ABOUT INTERNATIONAL NORTH-SOUTH TRANSPORT CORRIDOR (INSTC)

- It is a 7,200-km-long multi-modal transportation network **involving sea, rail, and road routes**.
- **INSTC was established in the year 2000**, with the founding agreement signed in **St. Petersburg** by **India, Iran, and Russia**.
- It aims to link the **Indian Ocean and Persian Gulf with the Caspian Sea** via Iran, and then further onward to **Northern Europe via Russia's St. Petersburg**.
- The corridor significantly shortens trade routes between India and Europe, offering a faster and cheaper alternative to the Suez Canal route.



- Currently, there are **13 member countries**: India, Iran, Russia, Azerbaijan, Armenia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkey, Ukraine, Belarus, Oman, and Syria. Additionally, **Bulgaria has joined as an Observer State**.
- India plays a pivotal role in the INSTC, with the Chabahar Port in Iran serving as a key node, facilitating access to Afghanistan and Central Asia while bypassing Pakistan.



IAS ORIGIN
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CYBERBULLYING & LEGAL FRAMEWORK IN INDIA

News: Despite the growing prevalence of cyberbullying in India, existing laws remain inadequate in curbing the menace.



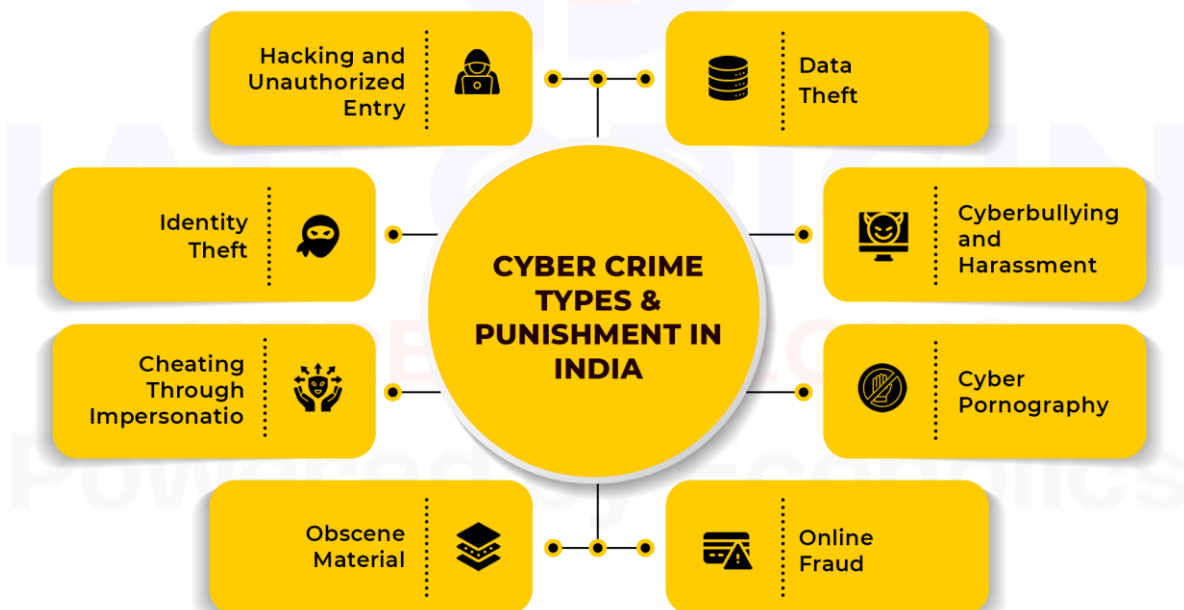
WHAT IS CYBERBULLYING?

- Cyberbullying involves the use of digital platforms to harass, threaten, humiliate, or target individuals. It can take many forms such as:
 - **Trolling:** Repeated online harassment, often by anonymous users.
 - **Doxxing:** Malicious publication of personal information (e.g., phone numbers, addresses).
 - **Online Stalking and Hate Speech:** Persistent surveillance and abusive speech targeted at individuals or communities.

LEGAL FRAMEWORK FOR ADDRESSING CYBERBULLYING IN INDIA

- India lacks a dedicated law specifically aimed at tackling online hate speech and trolling.
- A limited number of provisions under the **Bharatiya Nyaya Sanhita (BNS), 2003**, and the **Information Technology (IT) Act, 2000**, cover certain aspects of cyberbullying.
- **Bharatiya Nyaya Sanhita (BNS), 2023:**

- **Section 74:** Assault or criminal force with intent to outrage modesty.
- **Section 75:** Sexual harassment.
- **Section 196:** Promoting enmity between groups.
- **Section 351:** Criminal intimidation.
- **Section 356:** Defamation.
- **Information Technology (IT) Act, 2000:**
 - **Section 66C:** Identity theft.
 - **Section 66D:** Impersonation using computer resources.
 - **Section 67:** Publishing or transmitting obscene material.
 - **Section 69A:** Blocking public access to online information on specified grounds.
 - **Section 79:** Safe harbor provision for intermediaries.



FATHER OF INDIA'S SCIENCE MUSEUM MOVEMENT

News: Saroj Ghose, the founding Director-General of the National Council of Science Museums (NCSM) and a pioneer of India's science museum movement, passed away.



ROLES AND CONTRIBUTIONS OF SAROJ GHOSE

- He was known as the **Father of the Science Centre Movement** in India
 - He was a **Harvard alumnus** and received the **Padma Shri** in 1989 and the **Padma Bhushan** in 2007.
- He played a key role in founding the **National Council of Science Museums (NCSM)** in 1978, leading to the creation of science centers across India.
 - He was Director-General of NCSM from 1979 to 1997.
- He served as President of the **International Council of Museums (ICOM)**, Paris.
- He contributed to the creation of the **Town Hall Museum in Kolkata**, Parliament Museum in New Delhi, and Rashtrapati Bhavan Museum in New Delhi.

- These institutions promote science and technology through non-formal education.

NATIONAL COUNCIL OF SCIENCE MUSEUMS (NCSM)

- It is an autonomous society under the **Ministry of Culture**, Government of India was formed on April 4, 1978.
 - Today, it administers 26 Science Centers/Museums spread all over India.
- It aims to promote scientific awareness and a scientific temper among the public by showcasing the growth and applications of science and technology.
- It works to collect and preserve historical scientific artifacts, design educational exhibits and teaching aids, and organize science-related activities such as exhibitions, camps, and seminars across urban and rural areas.



YOUTUBER BOOKED UNDER OFFICIAL SECRETS ACT

News: Recently, a Haryana-based travel vlogger was charged with official secrets act and section 152 of the Bhartiya Nyaya Sanhita on charges of espionage for allegedly sharing sensitive information with Pakistani intelligence agencies.



WHAT IS THE OFFICIAL SECRETS ACT?

- **Evolution:**
 - The **Official Secrets Act, 1923** has its roots in the **British colonial era**.
 - The original version was the **Indian Official Secrets Act (Act XIV), 1889**, brought in with the main objective of muzzling newspapers opposing the **British Raj's policies**.
 - It was amended and made more stringent in the form of the **Indian Official Secrets Act, 1904**, during **Lord Curzon's tenure as Viceroy of India**. In 1923, a newer version was notified.
- **Provisions:**
 - **Section 3 of the Official Secrets Act, 1923:** Penalizes activities that are considered prejudicial to the safety and interests of the state. It includes actions like entering or inspecting prohibited places, or gathering and sharing plans,

maps, models, documents, or codes that could aid an enemy.

- **Section 5 of the Official Secrets Act, 1923:** It targets both intentional and negligent disclosure of classified information to unauthorized individuals or entities.
- Other Acts like **wearing unauthorized uniforms (Section 6)** & attempting or **abetting any OSA offence (Section 9)** are there.
- **Penalty:**
 - The **punishment may extend up to 14 years of imprisonment** if the act concerns defense establishments, and up to 3 years otherwise.
- **Power of Arrest and Investigation:**
 - The Act provides for arrest without a warrant, search of premises, and seizure of documents if there's reasonable suspicion of a violation.
 - The burden of proof often shifts to the accused, raising due process concerns under **Article 21 (Right to Life and Liberty)**.
 - Prosecutions under OSA can be kept **confidential for national interest**.

ABOUT SECTION 152 OF THE BHARATIYA NYAYA SANHITA (BNS) , 2023

- It criminalizes any act that promotes secession, armed rebellion, or separatist activities.
- The prescribed punishment is life imprisonment, or imprisonment that may extend up to 7 years, along with a fine.
- Though Peaceful criticism of government actions for lawful reform is not punishable.

BIO-INK FOR CORAL REEF RESTORATION

News: Scientists have developed a new bio-ink to enhance coral larva settlement by over 20 times.

BACKGROUND

- Coral reefs, often termed the “**rainforests of the sea**,” are vital marine ecosystems that support **25%** of all marine life.
- They are also crucial for fisheries, tourism, and coastal protection. However, reefs have halved globally since the mid-20th century mainly due to:
 - Climate change (warming oceans and acidification)
 - Pollution and overfishing
 - Physical destruction
 - Coral bleaching events.
- Conventional restoration methods, such as **planting nursery-grown corals**, have shown limited scalability and effectiveness.

ABOUT SNAP-X BIO-INK

- SNAP-X is a **transparent, bio-engineered ink**, infused with
- metabolites derived from **Crustose Coralline Algae (CCA)**.
 - CCA is a type of **rocky pink algae** known to attract coral larvae.
- Crustose Coralline Algae release chemical cues into the seawater which are followed by coral larvae during the settlement phase.
- SNAP-X slowly releases these cues over a month, creating a suitable microhabitat for coral larvae to settle and grow.



CORAL BLEACHING

CORALS ARE COLONIAL CREATURES. THEY'RE MADE OF HUNDREDS OF ANIMALS CALLED POLYPS. SHARING THE POLYPS' HOME ARE TINY ALGAE CALLED ZOOXANTHALLAE. THE ZOOXANTHALLAE, AND THE COMPOUNDS MADE BY CORAL POLYPS TO PROTECT THEM, ARE WHAT MAKE CORALS SO COLOURFUL.

Coral bleaching occurs when coral loses its bright color and becomes white.

WHAT TRIGGERS CORAL BLEACHING?



The main cause of coral bleaching is climate change, low tides, pollution, or too much sun.

MAJOR CAUSES



- **INCREASE IN OCEAN TEMPERATURE** the leading cause is climate change. An increase of just 2 degrees Fahrenheit is all it takes to cause stress on corals



- **POLLUTION** chemicals such as oxybenzone in sunscreen causes coral to absorb more heat so threshold for bleaching becomes lower



- **LIGHT EXPOSURE** too much sunlight causes overexcitement during photosynthesis and leads to ejection of zooxanthellae

CONSEQUENCES



- Disrupted ecosystems
- Loss in Tourism revenue
- Reduced environmental quality
- Coastal erosion
- Decline in fish populations
- Reduced biodiversity



HOW DOES CORAL BLEACHING IMPACT WILDLIFE?

Coral bleaching impacts livelihoods, food security and community safety. Also coral reefs are natural barriers that absorb wave forces.

WHY THIS MATTERS?

- 25% of marine life is supported by coral reefs
- 90% of pacific islander's animal protein come from reef fish
- \$9.6 billion/year is accrued from tourism & recreation revenues

HOW YOU CAN HELP?



Small actions that can be taken to reduce coral reef loss, such as reducing rainwater and fertilizer runoff or avoiding herbicides and pesticides.

However, for global action, comprehensive, must address climate change by halting deforestation, transitioning to renewable energy, and guiding governments towards climate-smart policies.

SAMPLE CASE

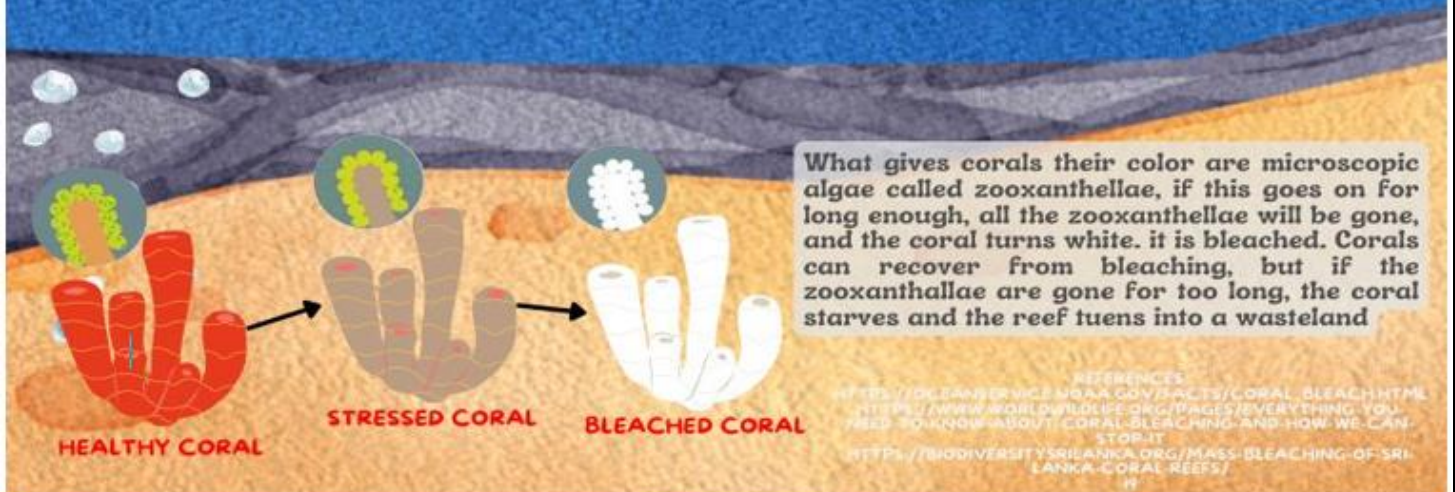
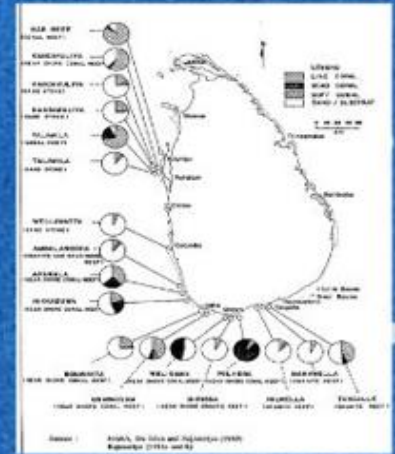
SRI LANKA IN 1983



CORAL BLEACHED

Coral bleaching is particularly high throughout Southeast Asia and the central Indian Ocean. **Sri Lanka**, to be precise in Unawatuna, Weligama, Mirissa and Polhena. This is due to the increase in ocean temperatures due to **climate change**, combined with the warming effects of the **El Niño** pattern pushing temperatures to record levels.

A stylized illustration of a coastal scene. In the foreground, a dark blue, textured area represents the land or a steep bank. A thin, light-colored path or road runs along the edge of this area, leading towards the sea. In the middle ground, a large, dark blue, rounded shape represents a rock or a small island in the water. To the left, a small, white, lighthouse-like structure sits on a small patch of land. In the background, a large, multi-masted sailing ship is visible on the water, with several smaller boats nearby. The sky is a light, pale blue.



STORY ORIGIN
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ADVANCED INSTITUTE FOR WILDLIFE CONSERVATION

News: The Tamil Nadu government has decided to reroute its Endangered Species Conservation Fund to the Advanced Institute of Wildlife Conservation (AIWC), to ensure its timely implementation.

BACKGROUND

- The Endangered Species Conservation Fund was announced in **2024** to protect threatened flora and fauna in Tamil Nadu.
- Initially, it was to be managed by the State Forest Development Agency (SFDA), with oversight from the Mudumalai Tiger Reserve Foundation.
 - However, SFDA was inactive and unable to fulfill its role.



ADVANCED INSTITUTE FOR WILDLIFE CONSERVATION (AIWC)

- The Advanced Institute for Wildlife Conservation in **Vandalur** was established in **2017**.
- The **institute conducts** multidisciplinary wildlife research, capacity building in wildlife conservation, training programs and advisories in wildlife research by partnering with leading research institutions in India.
- AIWC is equipped with **three forensic labs** dedicated to morphometry, DNA sequencing, and histopathological tests.

LIVE BAITING FOR TIGERS

News: Recently, it has been found that artificial food for injured or aging tigers foster human habituation and cause conflicts.



LIVE BAITING

- It refers to offering prey animals, like buffalo or goats, to predators, often used by British hunters to lure tigers for shooting.
- In post-Independence India, live baiting was used for **tiger tourism**, with bait placed weekly for visitors to photograph tigers at a kill.
- While tiger hunting was **banned in the 1970s**, live baiting continued until it was banned by Prime Minister Indira Gandhi in 1982.
- However, it is still used in conflict situations, particularly for trapping leopards, and for **feeding injured or old tigers in the wild**.

RULES AND REGULATIONS

- Live baiting to lure tigers for tourism is prohibited, but offering live food to injured or old tigers is “not advisable” under the National Tiger Conservation Authority’s (NTCA) Standard Operating Procedure (SOP).
 - The SOP stresses minimal human intervention in wild tiger management, as artificial feeding disrupts the natural

process of “survival of the fittest” and can lead to human-wildlife conflicts.

- Experts like Valmik Thapa warn that feeding tigers should only be an emergency measure, lasting no more than three months.



IAS ORIGIN
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RARE EARTH MAGNETS

News: China has imposed curbs on **rare earth magnets**.



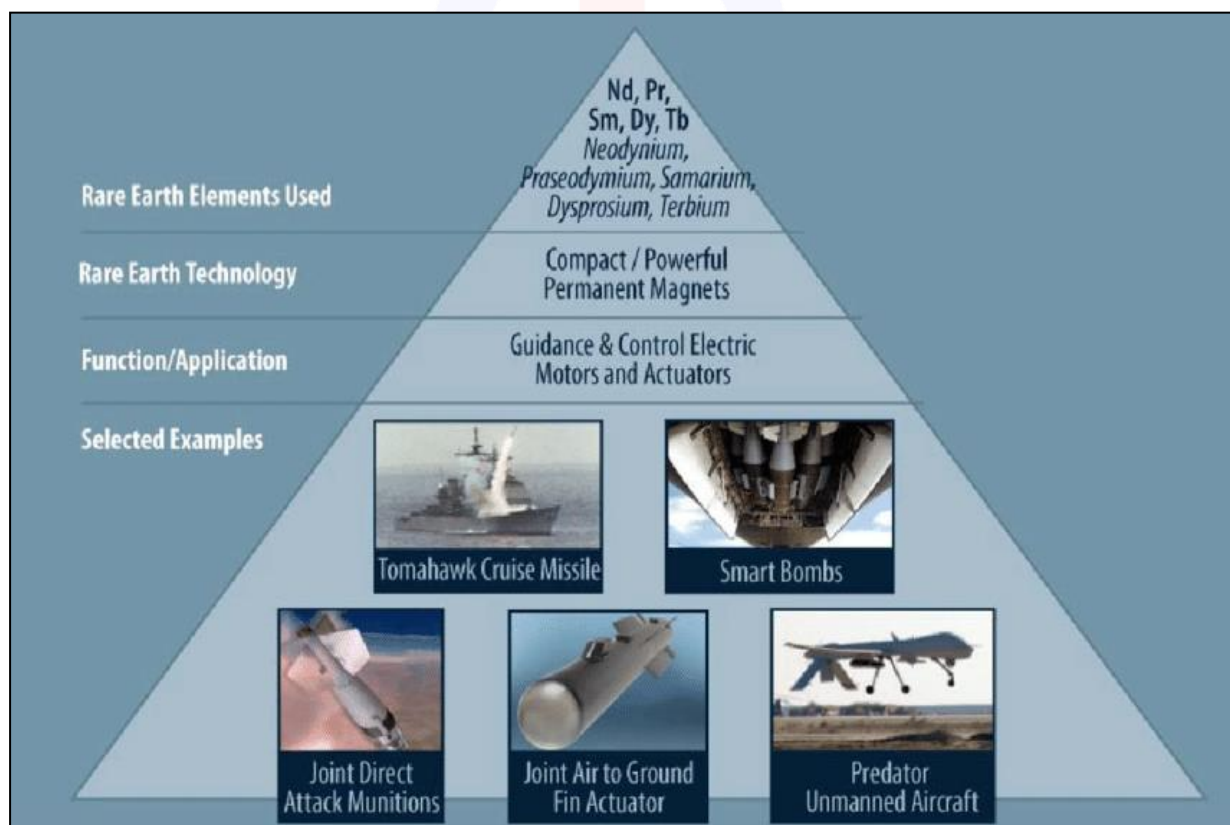
ABOUT

- **Rare earth magnets**, especially **neodymium-iron-boron (NdFeB) magnets**, are crucial for **Electric Vehicle (EV) manufacturing**, particularly in electric motors.
- They provide the **strong magnetic fields** needed for **efficient and powerful electric motors**, including traction motors that drive EVs.
 - These magnets also play a **major role in other EV components** like power steering systems, wiper motors, and braking systems.
- **China** has a near monopoly over these rare earth magnets.
 - **US and India** are heavily dependent on Chinese exports of these metals.

RARE EARTH ELEMENTS

- **Rare earth elements** are a series of **seventeen substances** that are **present in the earth's crust**.
 - Unlike what the name may indicate, **rare earths occur plentifully in nature**, but the **rarity comes from the ability to isolate them chemically** and make them usable in industrial applications.

- **Demand for rare earth metals** such as neodymium, dysprosium, praseodymium and yttrium is increasing alongside technological advancements.
- **Heavy and light rare earths occur naturally in several countries**, such as India, China, Myanmar, Japan, Australia and North Korea.
 - **China** is the world's largest producer of rare earths followed by the USA.
- **Significance:**
 - They are used in everyday technologies like a cellphone, computer and in advanced medical technologies like MRIs, laser scalpels etc.





RARE EARTH METALS

PRODUCTION IS DIVERSIFYING AGAIN

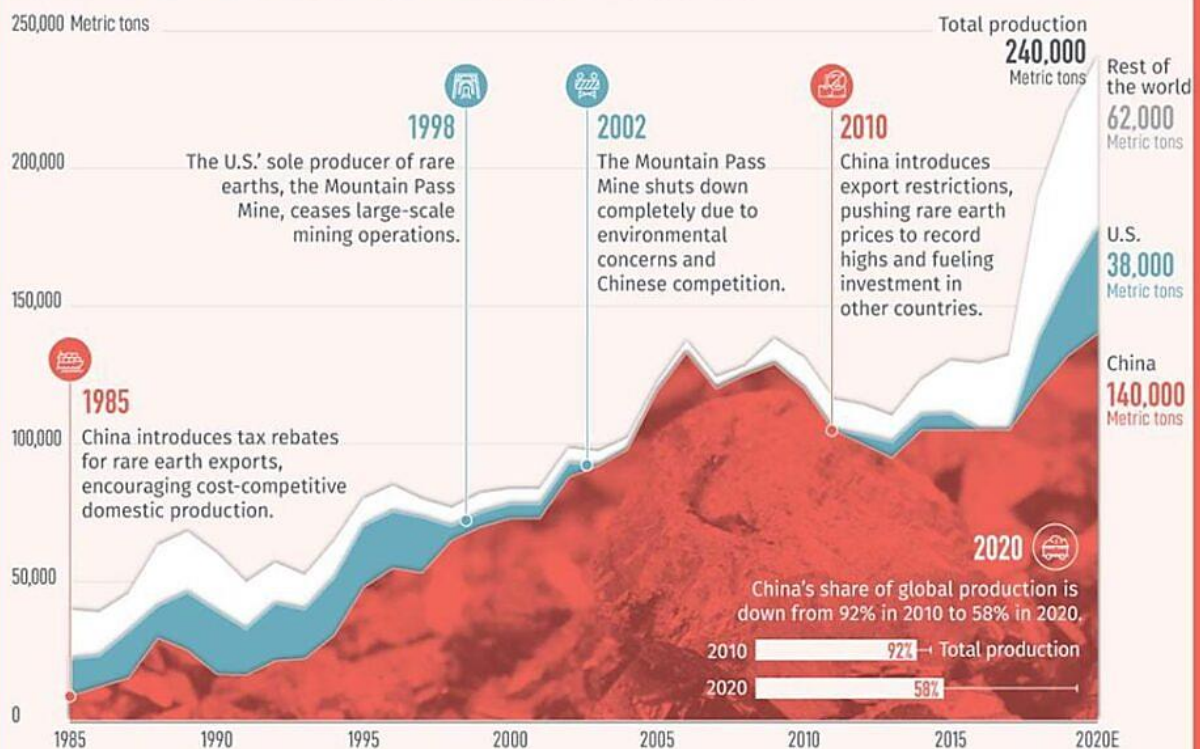


China has been the world's primary source of rare earth elements since the late 1990s. However, other countries have recently ramped up their production in a bid to reduce reliance on China.

WHAT ARE RARE EARTH ELEMENTS?

A group of 17 minerals that power several modern technologies. In fact, it's likely the screen you're viewing this on contains a few of them.

MINE PRODUCTION OF RARE EARTH OXIDES (1985-2020)

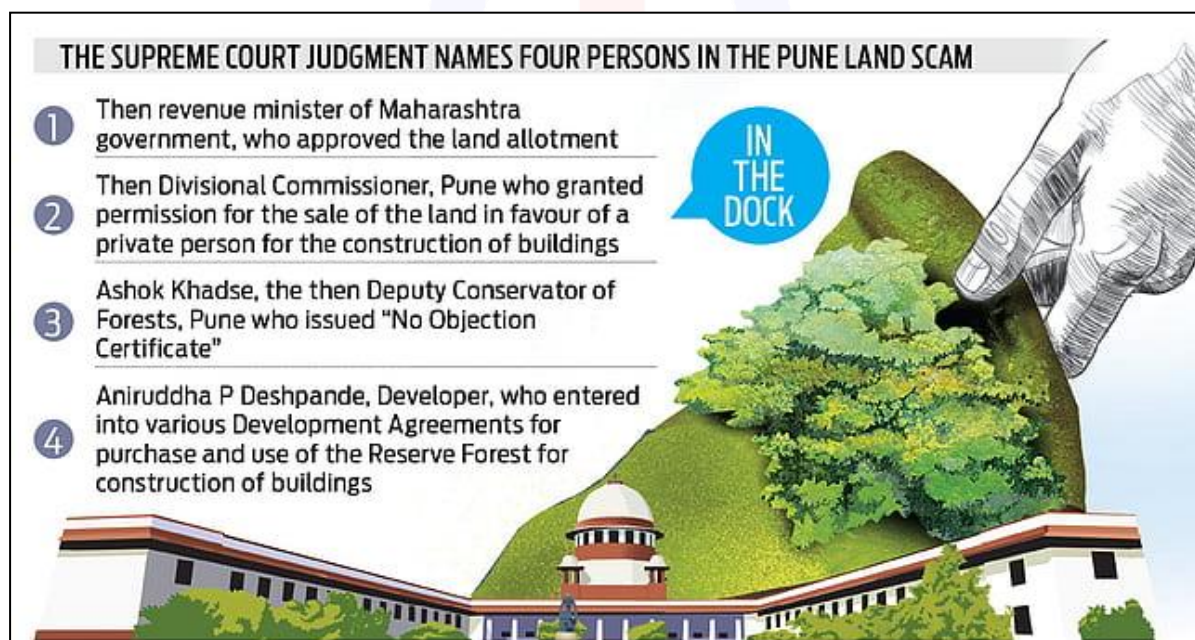


SC DIRECTION TO TAKE BACK FOREST LAND ILLEGALLY ALLOTTED TO PRIVATE ENTITIES

News: The Supreme Court of India has directed all States and Union Territories to investigate and reclaim forest lands that were illegally allotted for non-forest purposes, citing severe legal and ecological violations.

BACKGROUND

India's forest cover and its legal protection stem from various post-Independence legislations and constitutional provisions. One key legislation is the **Forest (Conservation) Act, 1980**, which mandates prior approval from the Central Government for the use of forest land for non-forest purposes.



However, over the years, **many state governments and local authorities have diverted forest land for non-forest uses** such as construction, mining, tourism, or agriculture without appropriate approvals. This often led to:

- **Loss of forest cover**
- **Displacement of forest-dwelling communities**
- **Environmental degradation**

Several NGOs and public interest litigations (PILs) have flagged these illegal diversions, prompting judicial scrutiny.

SUPREME COURT RULING (MAY 2024)

In a **landmark ruling**, the **Supreme Court of India** directed all **States and Union Territories** to:

- **Investigate instances where forest lands were illegally allotted or diverted** for non-forest purposes.
- **Reclaim such lands immediately** if found to be allotted in violation of legal norms.
- Submit **status reports** on steps taken, within a stipulated time.
- **Ensure compliance** with the Forest (Conservation) Act, 1980 and other related environmental laws.



KEY OBSERVATIONS BY THE COURT:

- There has been “**brazen violation of statutory provisions**”.
- Such acts represent “**serious legal and ecological violations**”.
- The court criticized **state inaction** and **lack of accountability**.

This direction was in continuation of earlier judicial interventions, including the famous **T.N. Godavarman Thirumulpad v. Union of India**

(1996) case, where the SC widened the definition of "forest" to include land as per dictionary meaning, not just notified forests.

LEGAL AND ENVIRONMENTAL ISSUES HIGHLIGHTED

LEGAL ISSUES:

- **Violation of Forest (Conservation) Act, 1980:** Any use of forest land for non-forest purposes requires Central Government clearance, which was ignored.
- **Breach of Supreme Court orders** from earlier judgments that placed restrictions on unauthorized diversion of forest land.
- **Encroachment and Regularization:** State authorities allowed illegal occupants or commercial interests to remain without proper legal process.



ENVIRONMENTAL ISSUES:

- **Deforestation and habitat loss**, especially affecting biodiversity hotspots.
- **Climate change** impact: Forests act as carbon sinks, and deforestation undermines India's climate goals under **Paris Agreement and NDCs**.
- **Disruption to tribal and forest-dwelling communities**, violating the **Forest Rights Act, 2006**.

CONSTITUTIONAL SAFEGUARDS

FUNDAMENTAL AND DIRECTIVE PRINCIPLES:

- **Article 21:** Right to life includes the right to a clean and healthy environment.
- **Article 48A:** Directs the State to protect and improve the environment and safeguard forests and wildlife.
- **Article 51A(g):** Fundamental duty of every citizen to protect the environment.

RELATED LAWS:

- **Forest (Conservation) Act, 1980**
- **Environmental Protection Act, 1986**
- **Wildlife Protection Act, 1972**
- **Forest Rights Act, 2006**

WAY FORWARD

- **Nationwide Forest Audit:**
 - Independent audit of forest land allotments since 1980.
 - Mapping of forests using satellite imagery (like FSI reports).
- **Strengthen Monitoring & Accountability:**
 - State forest departments must be equipped with GIS tools.
 - Fix accountability on erring officers and departments.
- **Community Involvement:**
 - Empower **Joint Forest Management Committees (JFMCs)**.
 - Recognize rights under **FRA, 2006** before any diversion.
- **Transparency & Public Access:**
 - Public disclosure of forest land diversions.

- Periodic reports to be tabled in State Assemblies.
- **Sustainable Development:**
 - Ensure that forest diversion is a last resort, and compensatory afforestation is scientifically and ecologically sound.
- **Judicial Oversight:**
 - A central monitoring cell under the Supreme Court for compliance.
 - Periodic review of state actions by Green Tribunals or High Courts.



US PASSES TAKE IT DOWN ACT

News: The U.S. President Donald Trump signed the Take It Down Act, criminalizing the non-consensual sharing of intimate images including AI-generated deepfakes.

An online boom in non-consensual deepfakes is currently outpacing efforts to regulate the technology around the world due to a proliferation of AI tools.



BACKGROUND

The rise of **Artificial Intelligence (AI)** and **Generative AI tools** has made it increasingly easy to create **realistic synthetic media**, including images, videos, and audio that convincingly imitate real people. Among the most troubling uses of this technology is the creation and dissemination of **deepfake pornography**, especially targeting women without their consent.

A **global surge in non-consensual intimate imagery (NCII)**, particularly **deepfake pornography**, has led to mounting concerns regarding:

- Violation of privacy
- Harassment and defamation

- Mental trauma and reputational damage
- Lack of adequate legal safeguards

WHAT IS THE TAKE IT DOWN ACT?

In **May 2024**, U.S. President Donald Trump signed the **Take It Down Act**, aimed at:

- **Criminalizing the non-consensual sharing of intimate images**, including **AI-generated and deepfake content**.
- Empowering **victims to demand immediate takedown** of such content from online platforms.
- Making it **mandatory for tech companies and online platforms to remove NCII and deepfake content** within a specified time frame.



KEY PROVISIONS :

- Covers **real and synthetic media** (deepfakes) that depict sexual content or nudity without consent.
- **Mandatory reporting mechanism** and swift removal policy for platforms.
- **Penal provisions** for offenders including criminal liability.

- Introduces a **federal NCII reporting system** under the Office on Violence Against Women.

This Act follows similar initiatives such as the **STOP N.C.I.I. portal** and California's **anti-deepfake laws**, but elevates it to **national law**.

WHAT ARE DEEPPFAKES?

Deepfakes are AI-generated synthetic media created using **deep learning techniques**, particularly **Generative Adversarial Networks (GANs)**, which can:

- Replace one person's face with another in video/images
- Clone voices and gestures
- Mimic real individuals in text, audio, or video form

While deepfakes have some legitimate uses (film, gaming, education), they are **largely weaponized for misinformation and sexual exploitation**.



IMPACTS OF DEEPPFAKES

SOCIAL & ETHICAL IMPACT:

- **Violation of privacy and dignity** especially of women, celebrities, and public figures
- **Mental trauma, social stigma**, and harassment
- **Undermines trust in digital media** (video evidence no longer reliable)



POLITICAL & NATIONAL SECURITY IMPACT:

- **Misinformation and fake news** during elections or political campaigns
- Can be used for **character assassination**, incitement of violence, or **foreign interference**
- Potential **threat to national security**, if misused in strategic communications

TECHNOLOGICAL & LEGAL IMPACT:

- **Overburdens platforms and law enforcement**
- **Difficult to trace creators** due to anonymization and encryption
- **Takedown mechanisms are reactive and slow**

LEGAL PROVISIONS IN INDIA

India currently **does not have any standalone law on deepfakes**, but certain provisions may apply:



- **Information Technology Act, 2000**
 - **Section 66E:** Punishes violation of privacy through capturing/publishing images of private areas
 - **Section 67A:** Punishes publishing/transmitting sexually explicit content
 - **Section 69A:** Allows blocking of public access to information (used to block deepfake sites)
- **Indian Penal Code, 1860**
 - **Section 354C (Voyeurism) and 509:** For insulting modesty of women
 - **Section 500 (Defamation), Section 468 (Forgery):** Can be applied to fake videos
- **IT Rules 2021 (Intermediary Guidelines):**
 - Mandate **due diligence** by social media platforms
 - Require **grievance redressal mechanisms**
 - Platforms must take down flagged content in 36 hours

- **Personal Data Protection Act, 2023** (expected enforcement soon):
 - Aims to protect personal data and ensure consent in data use
 - May offer **some protection** against deepfakes

LEGAL GAPS & CHALLENGES IN INDIA

- **No specific law defining deepfakes** or synthetic media as illegal.
- **Consent and harm-based framework is weak**, especially regarding AI-generated content.
- **Takedown mechanisms are slow** and often ineffective—content goes viral quickly.
- **Jurisdictional challenges** in cross-border hosting of such content.
- **Limited digital literacy and victim awareness**—especially among women and rural populations.
- **Difficulty in attribution**: Deepfake creators often remain anonymous or use foreign servers.



NEED FOR NEW DEEPPFAKE LAWS IN INDIA

- **Dedicated Deepfake Legislation:**
 - Define **deepfake content** legally.

- Provide **criminal penalties** for creating and sharing without consent.
- **Mandatory AI Watermarking:**
 - All AI-generated content should have identifiable **digital watermarks**.
- **Victim-Centric Mechanisms:**
 - Fast-track courts for deepfake cases
 - Government-supported **Take It Down** portals (like the U.S.)
- **Platform Accountability:**
 - Stricter timelines (24 hours or less) for removal.
 - Penalties for non-compliance.
- **Digital Literacy Campaigns:**
 - Awareness on reporting deepfakes
 - Educating youth, especially women, on digital safety
- **Global Cooperation:**
 - Deepfakes are a **transnational problem**. India needs to collaborate on **cyber treaties and protocols**.

CONCLUSION

The **Take It Down Act** is a model for countries like India to follow, given the **widespread abuse of deepfake technologies**. As India becomes increasingly digital, it must **proactively draft new laws**, ensure **platform accountability**, and **educate its citizens** to tackle the **AI-fueled invasion of privacy**.

SHIRUI LILY FESTIVAL

News: The Shirui Lily Festival resumed in Manipur after a two-year hiatus due to ethnic conflict, marking the first major movement of Meiteis through **Kuki-Zo regions** amid tight security.



WHAT IS THE SHIRUI LILY FESTIVAL?

The **Shirui Lily Festival** is an **annual cultural festival** held in **Ukhrul district of Manipur, India**, organized to celebrate the **rare and endangered Shirui Lily** (*Lilium mackliniae*), which blooms only in the **Shirui Hills** of Ukhrul.

- **Organized by:** Manipur Tourism Department (since 2017)
- **Purpose:** Promote **eco-tourism**, celebrate **Tangkhul Naga culture**, and raise awareness for **conserving the endemic Shirui Lily**.
- **When:** Usually held in **May**, during the blooming season of the lily.

KEY FEATURES OF THE FESTIVAL

CULTURAL SHOWCASES

- Folk dances, music, and traditional arts of the **Tangkhul Naga tribe**, the main inhabitants of Ukhrul.
- **Fashion shows** and **beauty pageants** (e.g., Miss Lily).

- Interactions between different communities including **Meitei** and **Naga** groups.

MUSICAL EVENTS

- Features national and international **rock bands and musicians**, as music is integral to Tangkhul culture.
- Promotes **youth engagement** and tourism.



ADVENTURE & ECO-TOURISM ACTIVITIES

- **Trekking** to the Shirui Peak
- **Marathon, camping, mountaineering, and paragliding**

TRADITIONAL CUISINE & HANDICRAFTS

- Showcases indigenous **Tangkhul and Meitei dishes**, crafts, and textiles.
- Promotes **local artisans** and women entrepreneurs.

CONSERVATION AWARENESS

- **Workshops and seminars** on biodiversity and protecting the Shirui Lily habitat.
- Collaboration with **botanists and conservationists**.

ABOUT SHIRUI LILY (*LILIUM MACKLINIAE*)

SCIENTIFIC CLASSIFICATION:

- **Family:** Liliaceae
- **Botanical Name:** *Lilium mackliniae*
- **Discovered by:** British botanist **Frank Kingdon-Ward** in 1946
- **Named after:** His wife, **Jean Macklin**



HABITAT:

- **Endemic to Shirui Hills** in Ukhrul district, Manipur
- **Altitude:** Grows at 1,730–2,500 meters
- **Blooming season:** May to June

FEATURES :

- **Color:** Pale bluish-pink to white
- **Shape:** Bell-shaped flowers
- **Fragrance:** Mild and pleasant
- **Ecological sensitivity:** Highly susceptible to changes in climate and human interference

SIGNIFICANCE OF SHIRUI LILY

ECOLOGICAL SIGNIFICANCE:

- An **endemic and endangered species** listed under **vulnerable flora**
- Indicator of **fragile mountain ecosystems** in the Eastern Himalayas

CULTURAL & SYMBOLIC IMPORTANCE:

- Sacred to the **Tangkhul Naga tribe**
- Considered the **State Flower of Manipur**
- A symbol of **beauty, resilience, and identity**

ABOUT THE MEITEI TRIBE (CONTEXTUAL RELEVANCE)

ETHNIC BACKGROUND:

- **Meiteis** are the **major ethnic group of the Manipur valley**, distinct from the hill-dwelling tribes like **Tangkhuls**.
- They speak the **Meitei language (Manipuri)**, which is also the **official language of Manipur**.



CULTURAL SIGNIFICANCE :

- Rich traditions in **dance (Ras Leela)**, martial arts (**Thang Ta**), and **Vaishnavite rituals**
- Participate in festivals like **Sangai Festival**, and also engage in the **Shirui Lily Festival** as part of state unity and cultural exchange.

RELEVANCE TO SHIRUI LILY FESTIVAL :

- Their involvement reflects **inter-ethnic harmony and cultural exchange** within Manipur.
- Encourages **integration of valley and hill communities** through shared platforms like this festival.



UPSC RELEVANCE

PRELIMS :

- Flora of India
- Endemic species
- Art & Culture of Northeast India

GS PAPER 1 – INDIAN SOCIETY / CULTURE :

- Tribal communities of Northeast India
- Cultural festivals and their role in social integration

GS PAPER 3 – ENVIRONMENT :

- Conservation of endangered species
- Biodiversity of Northeast India

CONCLUSION

The **Shirui Lily Festival** is a vibrant blend of **ecology and culture**, celebrating the **endemic beauty of the Shirui Lily** while promoting **cultural unity** among Manipur's ethnic groups like the **Tangkhuls and Meiteis**. It stands as a model for **eco-cultural tourism** and emphasizes the **importance of community-led conservation**.



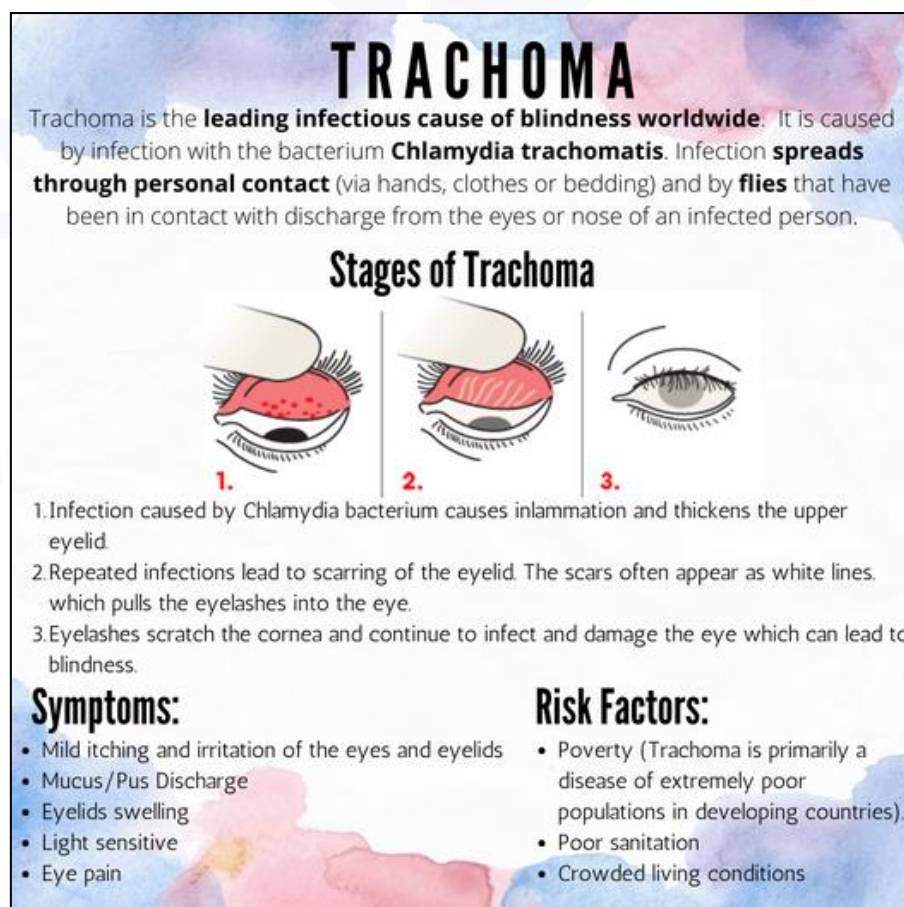
ELIMINATION OF TRACHOMA

News: India has officially received the WHO Certificate of Elimination of Trachoma as a Public Health Problem at the 78th World Health Assembly in Geneva.

India is now the third country in WHO South-East Asia Region (after Nepal and Myanmar) to eliminate trachoma.

WHAT IS TRACHOMA?

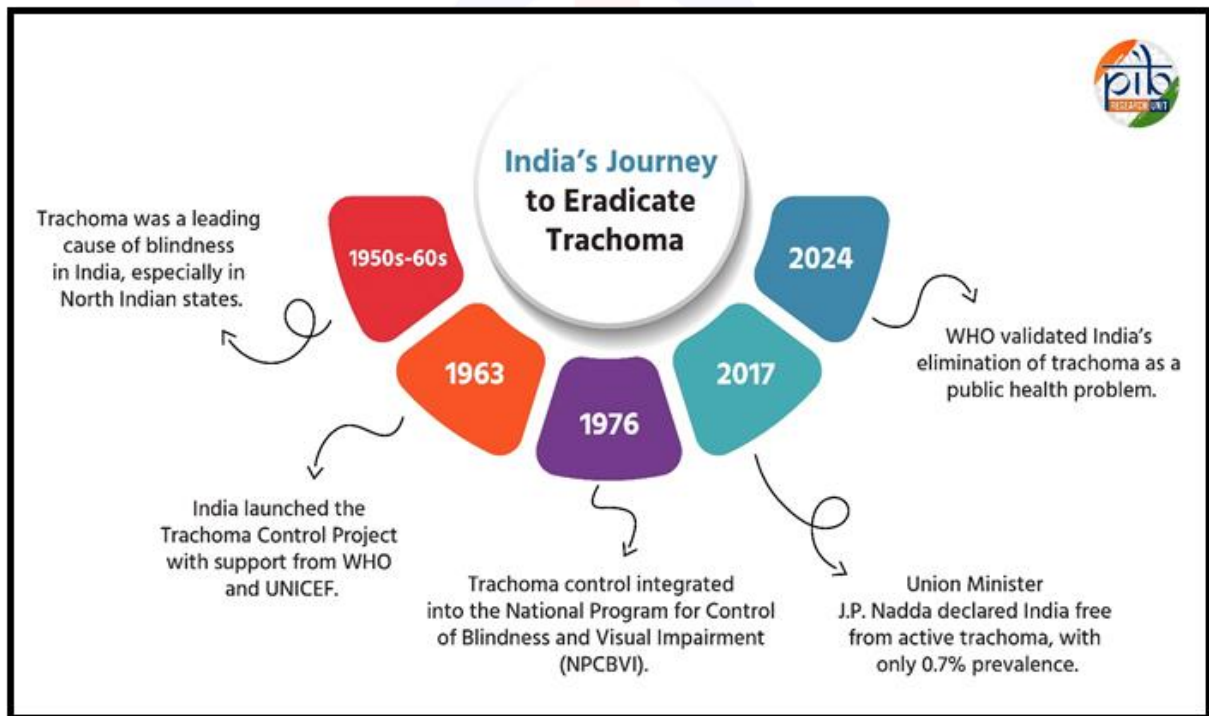
- **Trachoma** is a **contagious bacterial eye infection** caused by *Chlamydia trachomatis*.
- It is a **neglected tropical disease (NTD)** and a **leading infectious cause of blindness** globally.
- Repeated infections lead to **scarring of the eyelids**, causing eyelashes to turn inward (trichiasis), scratching the cornea and leading to **vision loss** or **blindness**.



GLOBAL & INDIAN DATA ON TRACHOMA

GLOBAL SCENARIO:

- **Endemic in 42 countries** (mostly in Africa, parts of Asia, and Latin America)
- According to **WHO (2022)**:
 - Over **125 million people** live in trachoma-endemic areas.
 - Around **1.9 million people suffer from visual impairment or blindness** due to trachoma.
 - Significant progress: **17 countries** have now eliminated it as a public health problem.



INDIA'S STATUS:

- Once **highly endemic in several Indian states** (especially Rajasthan, Haryana, Punjab, Gujarat, Delhi)
- **Trachoma Trachiasis (TT)** prevalence is now **well below the elimination threshold**:
 - As per the Ministry of Health & Family Welfare:
 - **Active trachoma prevalence** in children is **<5%**

- **TT prevalence** in adults >15 years is **<0.2%**
- India has now joined countries like Nepal, Iran, and Cambodia in officially eliminating trachoma as a public health problem.

SYMPTOMS AND IMPACT OF TRACHOMA

EARLY SYMPTOMS :

- Mild itching or irritation of the eyes and eyelids
- Eye discharge
- Swelling of eyelids
- Light sensitivity

ADVANCED STAGES :

- **Entropion:** Inward turning of the eyelid
- **Trichiasis:** Inward lashes scratch the cornea
- **Corneal opacity** → irreversible **blindness**

IMPACT :

- Affects **children and women** more than other groups
- Leads to **disability, economic loss, and social marginalization**

TRANSMISSION AND RISK FACTORS

MODE OF TRANSMISSION:

- **Direct contact** with eye or nasal discharge of infected individuals
- **Shared items** like towels or clothes
- **Eye-seeking flies** that carry the bacteria

RISK FACTORS :

- **Poor sanitation and hygiene**
- **Lack of clean water**
- **Overcrowded living conditions**
- **Limited access to healthcare**

- Children aged 1–9 are the most susceptible

INDIA'S ELIMINATION STRATEGY

India followed the **SAFE strategy** recommended by WHO:

- **S – Surgery** for trichiasis
- **A – Antibiotics** (Azithromycin) to clear infection
- **F – Facial cleanliness**
- **E – Environmental improvement** (sanitation, clean water)
- **National Trachoma Control Programme (NTCP)** initiated in 1963
- Intensified efforts in the last two decades through:
 - Mass drug administration
 - Behavior changes campaigns
 - Focused interventions in endemic areas
 - Monitoring and surveillance

Trachoma-related blindness decreased from **5% in 1971** to less than **1% today** due to the **NPCBVI program** and WHO's SAFE strategy (surgery, antibiotics, facial hygiene, environmental cleanliness).



The **National Trachoma Control Program** began in **1963**, later integrated into the **National Program for Control of Blindness (NPCB)**.

ABOUT THE WORLD HEALTH ORGANIZATION (WHO)

OVERVIEW:

- **Founded:** 7 April 1948
- **Headquarters:** Geneva, Switzerland
- **Parent body:** United Nations
- **Current Director-General:** Dr. Tedros Adhanom Ghebreyesus (as of 2025)



MANDATE:

- Coordinate international health activities
- Monitor disease outbreaks and responses
- Set global health standards and guidelines
- Lead initiatives on disease eradication/elimination (e.g., smallpox, polio, trachoma)

PROGRAMS FOR TRACHOMA:

- **WHO Alliance for the Global Elimination of Trachoma by 2030 (GET2020)**
- Works with governments, NGOs (like Sightsavers, Orbis), and pharma companies (e.g., Pfizer donates Azithromycin)

UPSC RELEVANCE

PRELIMS:

- Diseases and their causes (Trachoma – Chlamydia trachomatis)
- WHO and its programs
- SAFE strategy

GS PAPER 2 – GOVERNANCE/HEALTH:

- India's public health infrastructure
- Role of international organizations (WHO)
- Health achievement: disease elimination

GS PAPER 3 – SCIENCE & TECH/ENVIRONMENT:

- Water, sanitation, and hygiene (WASH) in disease control
- Neglected tropical diseases (NTDs)

CONCLUSION

India's **elimination of Trachoma as a public health problem** reflects the success of **multi-sectoral collaboration**, commitment to **universal health**, and effective **disease surveillance and response**. It is a model for tackling **neglected tropical diseases** through **community-based approaches** and **global partnerships**.



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OVERSEAS CITIZEN OF INDIA (OCI)

News: Union Home Minister launched a revamped Overseas Citizen of India (OCI) portal, aimed at enhancing digital accessibility, security, and service delivery.

WHAT IS OVERSEAS CITIZEN OF INDIA (OCI)?

- The **OCI card** is a form of **lifelong visa** and **residency status** granted to foreign citizens of Indian origin.
- Introduced under the **Citizenship (Amendment) Act, 2005**
- It is **not equivalent to dual citizenship**.
- Meant to allow the Indian diaspora to maintain **cultural, familial, and economic ties** with India.



ELIGIBILITY CRITERIA FOR OCI

- As per Section 7A of the **Citizenship Act, 1955**, the following foreign nationals are eligible for registration as OCI:
- **Was an Indian citizen** on or after 26 January 1950.
- **Belonged to a territory** that became part of India after 15 August 1947.
- Is a **child, grandchild, or great-grandchild** of such a person.
- **Minor child** of such individuals.

- **Minor child** where both parents are Indian citizens or one is an Indian citizen.
- **Spouse** of an Indian citizen or OCI cardholder (marriage must be registered and subsist for at least 2 years before application).

WHO IS NOT ELIGIBLE?

- **Nationals of Pakistan or Bangladesh** are **not eligible**, even if they meet ancestry criteria.
- A person whose parents, grandparents, or great-grandparents were ever **citizens of Pakistan or Bangladesh**.
- Anyone who has **served in a foreign military or police force**.
- **Spouses of OCI holders or Indian citizens** whose marriage has ended (e.g., divorce) or is no longer subsisting.



KEY BENEFITS OF AN OCI CARDHOLDER

- **Lifelong multiple-entry visa** to India for any purpose.
- **Exemption from registration with FRRO** for any length of stay.
- Parity with **NRIs** in the following areas:
 - Entry to national parks, monuments, and temples.

- Domestic airfares and admission fees.
- **Educational benefits** (admission under NRI quota in professional institutions).
- Can **buy residential and commercial property** in India.
- Eligible to apply for **PAN, Aadhaar, bank accounts, and mutual funds** (with compliance).

LATEST RULES & RESTRICTIONS

(AS PER MHA NOTIFICATION – MARCH 4, 2021)

OCI cardholders require **prior permission** from the **Foreigners Regional Registration Office (FRRO)** for:

- **Missionary work**
- **Mountaineering, trekking, or research work**
- **Journalistic activities**
- **Internship or employment** in foreign diplomatic missions or foreign armed forces in India
- Visiting **restricted or protected areas**

ADDITIONAL RULES:

- They **must carry their OCI card and passport** while traveling to India.
- **Parliamentary seats, constitutional posts, and voting rights** are not available to OCI holders.

KEY RESTRICTIONS ON OCI CARDHOLDERS

- **No right to vote** in Indian elections
- Cannot hold **public office** (e.g., President, Vice President, MP/MLA)
- Cannot work in **government jobs** in India
- Cannot buy **agricultural land or plantations**
- No dual citizenship benefits under Indian law

RENUNCIATION OF OCI

An OCI cardholder can **renounce their OCI status voluntarily** by submitting:

- A declaration form to the **Indian Mission/Post** abroad or to the **FRRO** in India.
- Upon renunciation, they **lose all rights and privileges associated with OCI**.

Additionally, the **Government of India can revoke OCI status** in cases of:

- Fraudulent application
- Acts against India's sovereignty or interest
- Criminal offences (including terrorism, espionage)

A PERSON OF INDIAN ORIGIN (PIO)	PIO VS OCI	OVERSEAS CITIZEN OF INDIA (OCI)
<ul style="list-style-type: none">➤ Means a foreign citizen (except a national of Pakistan, Afghanistan Bangladesh, China, Iran, Bhutan, Sri Lanka and Nepal)➤ A foreign citizen whose one of the parents/ grandparents/ great grandparents was born and a permanent resident of India.➤ Who is a spouse of a citizen of India or a PIO		<p>A foreign national, who was eligible to become citizen of India on 26.01.1950 or was a citizen of India on or at anytime after 26.01.1950 or belonged to a territory that became part of India after 15.08.1947 is eligible for registration as Overseas Citizen of India (OCI). Minor children of such person are also eligible for OCI. However, if the applicant had ever been a citizen of Pakistan or Bangladesh, he/she will not be eligible for OCI.</p>
BENEFITS <ul style="list-style-type: none">1. PIO card holders do not require a visa to visit India for a period of 15 years from the date of issue of the PIO card.2. They are exempted from registration at FRRO/ FRO if their stay does not exceeds 180 days. In case if the stay exceeds 180 days, they shall have to register with FRRO/ FRO within the next 30 days3. They enjoy parity with NRIs in economic, financial and educational benefits4. All future benefits that would be exempted to NRIs would also be available to the PIO card holders		BENEFITS <p>OCIs are entitled to a multipurpose, multiple entry, lifelong visa allowing them to visit India at any time, for any length of time and for any purpose</p> <ul style="list-style-type: none">➤ Exempted from police reporting for any length of stay in the country➤ Have also been granted all rights in the economic, financial and education fields in parity with NRIs except, the right to acquisition of agricultural or plantation properties

UPSC RELEVANCE

PRELIMS :

- OCI eligibility and restrictions
- Citizenship Act provisions
- Digital governance schemes (revamped portals)

GS PAPER 2 – POLITY & GOVERNANCE :

- Citizenship (Amendment) Act, 2005
- Diaspora policies
- e-Governance initiatives

CONCLUSION

The **OCI scheme** is a crucial element in India's engagement with its **global diaspora**, offering significant privileges while preserving constitutional safeguards around citizenship. The revamped **OCI portal** enhances accessibility and security, aligning with India's **Digital India mission** and **citizen services reforms**.

IAS ORIGIN
HERE IT BEGINS
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THREE DIGITAL INITIATIVES TO STREAMLINE PDS

News: Union Minister launched three new digital platforms, Depot Darpan, Anna Mitra, and Anna Sahayata to streamline India's **Public Distribution System (PDS)**, ensuring transparency, efficiency, and accountability.



WHAT IS PUBLIC DISTRIBUTION SYSTEM (PDS)?

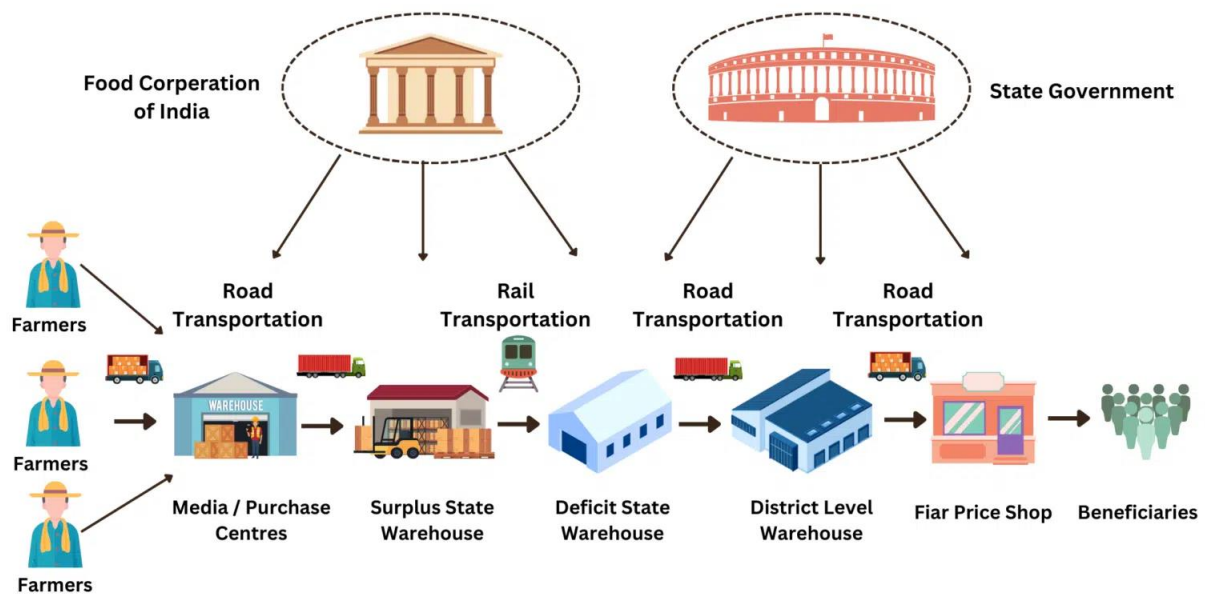
DEFINITION:

- The **PDS** is a **government-run food security system** that provides **essential commodities** like rice, wheat, and sugar at **subsidized prices** to the poor through **Fair Price Shops (FPSs)**.

KEY FEATURES:

- Operated under the **Ministry of Consumer Affairs, Food and Public Distribution**.
- Covers **over 80 crore beneficiaries** under the **National Food Security Act (NFSA), 2013**.
- Uses **digital ration cards**, **Aadhaar seeding**, and **electronic Point of Sale (ePoS)** for better targeting.

STRUCTURE OF THE PUBLIC DISTRIBUTION SYSTEM IN INDIA



EVOLUTION OF PDS :

- The Public Distribution System (PDS) in India originated during World War II as a wartime rationing measure and evolved through several phases.
- In the 1960s, PDS expanded in response to food shortages, with the establishment of the Agriculture Prices Commission and the FCI to ensure domestic procurement and storage.
- By the 1970s, PDS became a universal scheme, and in 1992, the Revamped Public Distribution System (RPDS) aimed to strengthen and expand PDS reach in remote areas.
- The Targeted Public Distribution System (TPDS), launched in 1997, focused on the poor by categorizing beneficiaries into Below Poverty Line (BPL) and Above Poverty Line (APL) households.
- The Antyodaya Anna Yojana (AAY), launched in 2000, further targeted the poorest families.

MANAGEMENT :

- It is jointly managed by the Central and State/UT Governments, with distinct responsibilities.

- The Central Government, via the Food Corporation of India (FCI), handles procurement, storage, transportation, and bulk allocation of foodgrains.
- State Governments manage local distribution, identify eligible households, issue ration cards, and supervise Fair Price Shops (FPSs).

COMMODITIES DISTRIBUTED :

- PDS primarily provides wheat, rice, sugar, and kerosene. Some states also distribute items like pulses, edible oils, and salt.

CHALLENGES :

- Leakage and diversion of food grains
- Ghost or duplicate beneficiaries
- Lack of real-time monitoring
- Inadequate grievance redressal

THREE DIGITAL INITIATIVES TO REFORM PDS (2025)

1. DEPOT DARPAN PORTAL

OBJECTIVE :

- To **digitize and monitor the operations** of **Central Warehousing Corporation (CWC) depots** and improve **supply chain visibility**.

FEATURES :

- Real-time information on **stock position, truck movement, quality inspection, and warehouse operations**.
- Covers nearly **166 CWC depots** across India.
- Integrates with other digital systems for **end-to-end grain tracking**.
- Digital self-assessment portal for depot-level performance tracking.
- Composite ratings based on a **60:40 ratio** (Operations: Infrastructure).

- IoT integration for **real-time monitoring, CCTV surveillance, and live analytics.**
- **Capital infusion:** ₹1000 crore (FCI) & ₹280 crore (CWC) for depot upgrades.

BENEFITS :

- Minimizes pilferage and inefficiencies in food grain storage and movement.
- Enables **transparency and accountability** in depot operations.
- Helps in **better forecasting and planning** for foodgrain movement.

2. ANNA MITRA

OBJECTIVE :

- To **engage citizens** in improving PDS delivery by acting as a **community-level watchdog.**

FEATURES :

- Citizens can **register as Anna Mitras (Food Friends)** on the app/portal.
- These volunteers can **report discrepancies, suggest improvements, and track distribution** at FPSs.
- Works like a **social audit mechanism** for PDS.
- Mobile app launched for FPS dealers, DFSSO officers, and food inspectors.
- Enables access to stock details, sales reports, alerts, and FPS performance.
- Conducts geo-tagged inspections and stock verifications.
- Currently rolled out in Assam, Uttarakhand, Tripura, and Punjab in Hindi and English.

BENEFITS :

- Promotes **community participation** in governance.

- Enables **real-time grievance reporting**.
- Strengthens **bottom-up accountability**.

3. ANNA SAHAYATA CHATBOT (WHATSAPP-BASED)

OBJECTIVE :

- To provide **AI-enabled assistance** to citizens regarding **PDS-related queries**.

FEATURES :

- Accessible **through WhatsApp chatbot in multiple languages**.
- Utilizes WhatsApp, IVRS, and Automatic Speech Recognition (ASR) for filing complaints.
- Built for accessibility, speed, and multilingual reach.
- **Pilot phase in** Gujarat, Jharkhand, Telangana, Tripura, and Uttar Pradesh in 5 languages.
 - Offers information on:
 - Entitlement and eligibility
 - Nearest Fair Price Shop
 - Status of ration card
 - PDS grievance redressal mechanism

BENEFITS :

- Ensures **24x7 access to services** and information.
- Empowers beneficiaries with **knowledge and digital tools**.
- Reduces dependency on middlemen.

IMPORTANCE FROM UPSC CSE PERSPECTIVE

PRELIMS :

- Key government schemes and digital governance tools
- E-governance in food security (ePoS, ONORC, Anna Sahayata)

GS PAPER 2 (GOVERNANCE) :

- **Government initiatives for food security**
- **Citizen engagement** and social audit
- Use of **technology in service delivery**

GS PAPER 3 (ECONOMY/AGRICULTURE) :

- Role of **PDS in poverty alleviation**
- Reforms in the **supply chain management**
- Prevention of **post-harvest losses and leakages**

CONCLUSION

The launch of **Depot Darpan**, **Anna Mitra**, and **Anna Sahayata** marks a major step in **digitizing and reforming India's PDS**. These initiatives reflect the government's push for **smart governance**, **transparency**, and **inclusive service delivery** using **technology and citizen participation**. When effectively implemented, they can **plug leakages**, **empower beneficiaries**, and help ensure **food security for all**.

IAS ORIGIN
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INDIA AND THE EUROPEAN UNION (EU)

News: India and the European Union (EU) chief negotiators have concluded another round of talks on the proposed **free trade agreement (FTA)** and agreed to reach a deal in two phases.

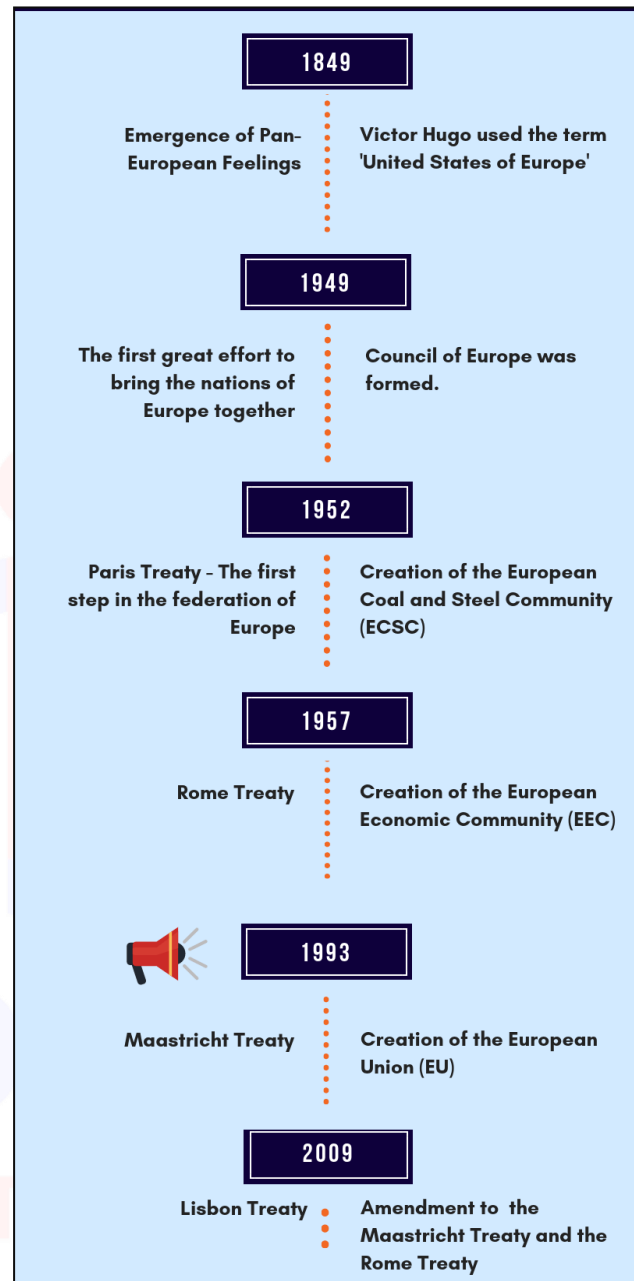


WHAT IS A FREE TRADE AGREEMENT (FTA)?

- **Definition:**
 - An FTA is a pact between two or more nations to reduce or eliminate trade barriers like tariffs, quotas, and import duties.
 - Example: India has FTAs with countries like ASEAN, Japan, and South Korea.
- **Purpose:**
 - It aims to boost trade, improve economic cooperation, and facilitate cross-border investments between member nations.
 - Example: After the India-ASEAN FTA, bilateral trade between India and ASEAN increased significantly.

WHAT IS THE EUROPEAN UNION (EU)?

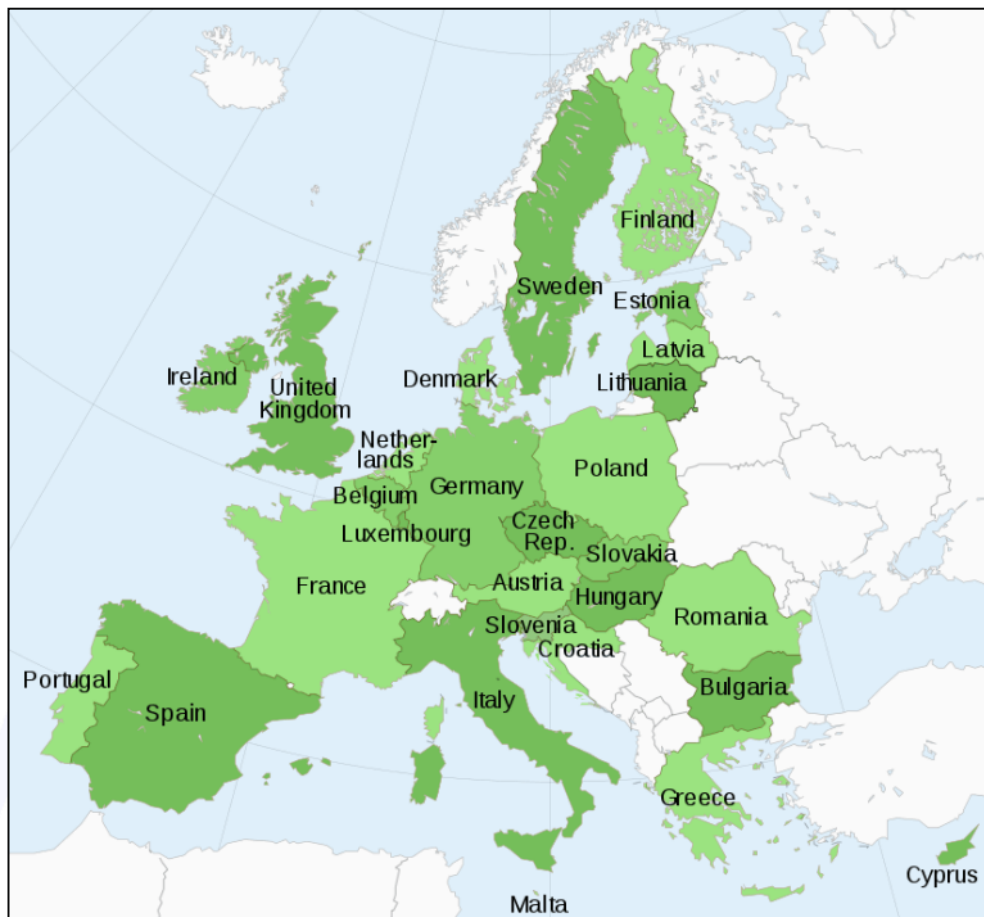
- The EU is a political and economic union of 27 European countries that have established a single market and customs union.
 - **Example:** Countries like Germany, France, Italy, and the Netherlands are part of the EU.
- The EU traces its **roots to the European Coal and Steel Community, which was founded in 1950 and had just six members: Belgium, France, Germany, Italy, Luxembourg, and the Netherlands.**
- It became the European Economic Community in **1957 under the Treaty of Rome** and subsequently was renamed the European Community (EC).



- European Union (EU), Organization of European countries, formed in 1993 to oversee their economic and political integration.
- It was **created by the Maastricht Treaty and ratified by all members of the European Community (EC)**, out of which the EU developed.
- It promotes democratic values in its member nations and is one of the world's most powerful trade blocs.
- **20 of the countries share the euro as their official currency.**

KEY INSTITUTIONS :

- **Includes the European Parliament,** European Commission, and European Council to govern policy, economy, and laws.
- **Example:** The European Commission is responsible for trade negotiations on behalf of all EU members.



OVERVIEW OF INDIA-EU FTA NEGOTIATIONS

- **Start of Negotiations:** Talks began in **2007** for a Broad-based Trade and Investment Agreement (BTIA).
 - **Example:** The agreement covers trade in goods, services, investment, IPR, and regulatory issues.
- **Breakdown in 2013:** Talks stalled due to disagreements over tariffs, data privacy, investment protection, and labour standards.
 - **Example:** EU demanded lower duties on wines and cars, which India hesitated to allow.

- **Resumption in 2022:** Dialogue revived due to shifting geopolitics, supply chain realignment, and shared climate goals.
 - **Example:** The India-EU Trade and Technology Council was launched to facilitate negotiation and cooperation.
- **Two-Phase Agreement (2025):** Recent rounds agreed to finalise goods/services first, and digital/IPR later.
 - **Example:** Phase 1 includes tariff reductions; Phase 2 will address complex digital trade rules.

The Broad-Based Trade and Investment Agreement (BTIA) is a proposed trade agreement between India and the European Union (EU). It aims to enhance bilateral trade in goods and services, and investment flows, by removing barriers and creating a more conducive environment for business. The BTIA covers a wide range of issues, including trade in goods, services, investment, sanitary and phytosanitary measures, and intellectual property rights.

HISTORICAL RELATIONS BETWEEN INDIA AND EU

- **Diplomatic Ties (1962):** Relations established during the Cold War era when the European Economic Community was formed.
 - **Example:** India was among the first developing countries to establish ties with the EU's predecessor.
- **First India-EU Summit (2000):** Led to the launch of a **Strategic Partnership** focused on peace, democracy, and sustainable development.
 - **Example:** It formalized annual summits and joint working groups.

POLITICAL COOPERATION

- **Strategic Partnership (2004):** Strengthened political dialogue and institutional frameworks.
 - **Example:** High-level meetings, foreign policy consultations, and security coordination are regularly held.

- **Shared Democratic Values:** Both support multilateralism, rule of law, human rights, and UN reforms.
 - **Example:** EU supports India's bid for permanent membership in a reformed UN Security Council.



ECONOMIC AND TRADE RELATIONS

- **Major Trading Partner:** EU is India's **second-largest trading partner** after the US.
 - **Example:** Bilateral trade was over €120 billion in 2023.
- **FDI Flows:** EU is one of the largest investors in India, especially in sectors like services, automobiles, and chemicals.
 - **Example:** European companies like Airbus, Siemens, and Nestlé have significant operations in India.
- **Tariff Issues:** EU wants tariff cuts on wine, spirits, and automobiles; India wants more access for its textiles, pharma, and IT services.
 - **Example:** High import duties on EU luxury cars have been a sticking point in negotiations.

ENERGY COOPERATION

- **India-EU Clean Energy and Climate Partnership (2016):** Collaboration on renewable energy, energy efficiency, and climate action.
 - **Example:** Joint development of green hydrogen and solar projects.
- **EU's Global Gateway Initiative:** EU's infrastructure initiative aligns with India's connectivity projects.
 - **Example:** EU can co-finance green and digital infrastructure projects under this initiative in India and the Indo-Pacific.



EDUCATION AND MOBILITY

- **Student Mobility:** Thousands of Indian students study in EU countries annually, especially in Germany, France, and the Netherlands.
 - **Example:** The Erasmus+ Programme funds Indian students to study in European universities.
- **Skilled Workforce Agreement:** Negotiations ongoing for mutual recognition of qualifications and ease of mobility.

- **Example:** Indian IT professionals are in high demand in countries like Ireland and Germany.

SCIENCE AND TECHNOLOGY COOPERATION

- **Science & Technology Agreement:** Collaboration in research areas like AI, quantum technology, climate modeling.
 - **Example:** Joint research under EU's Horizon Europe program.
- **Space Cooperation:** Growing synergy between ISRO and European Space Agency (ESA).
 - **Example:** Indian satellites have used European launch pads and ground stations.

MARITIME AND SECURITY COOPERATION

- **Indo-Pacific Dialogue:** EU supports India's role in ensuring a free, open, and rules-based Indo-Pacific region.
 - **Example:** Joint naval exercises and anti-piracy operations in the Indian Ocean.
- **Cybersecurity and Counterterrorism:** Joint working groups to share intelligence and counter threats.
 - **Example:** Collaborative programs for cyber hygiene and digital governance.



INVESTMENT AND REGULATORY ALIGNMENT

- **Investment Protection:** India wants flexibility; EU demands high standards in investor rights.
 - **Example:** EU seeks investor-state dispute resolution mechanism, which India opposes post-Balancing of Interests Act.
- **Data Protection:** EU's GDPR is stringent; India's Digital Personal Data Protection Act (2023) is more flexible.
 - **Example:** EU has not yet granted "data adequacy" status to India.

AGRICULTURE AND SANITARY STANDARDS

- **Agri Exports:** India wants market access for rice, tea, mangoes, and marine products.
 - **Example:** EU restrictions based on pesticide residue levels affect Indian agri exports.
- **Geographical Indications (GI):** Mutual recognition of GI tags being negotiated.
 - **Example:** India seeks protection for Basmati rice, Darjeeling tea; EU for Champagne and Feta cheese.

OTHER AREAS OF COOPERATION:

- **The India-EU Water Partnership (IEWP)**, established in 2016, aims to enhance technological, scientific, and policy frameworks in water management.
- **In 2020**, there was an **agreement for research and development cooperation** in the peaceful uses of nuclear energy between the **European Atomic Energy Community and the Government of India**.
- India and the EU established the **Trade and Technology Council (TTC)** in 2023.
 - The TTC is a forum for the two parties to collaborate on trade, technology, and security.

CHALLENGES IN FTA NEGOTIATIONS

- **Regulatory Misalignment:** Labour, environmental, and data rules differ significantly.
 - **Example:** EU enforces carbon border taxes; India is wary of new barriers on its exports.
- **IPR Disputes:** EU pushes for TRIPS+ norms; India protects generic drug exports.
 - **Example:** EU wants extended patent protection; India sees this as limiting affordable medicine access.
- **Public Procurement:** EU wants access to Indian government tenders, which India considers sensitive.
 - **Example:** EU firms want to bid for Indian rail and metro projects.



SIGNIFICANCE OF THE FTA FOR INDIA

- **Boost to Exports:** Especially in IT, textiles, pharmaceuticals, and agricultural goods.
 - **Example:** EU is the largest market for Indian generic medicines.
- **Supply Chain Diversification:** Reduces overdependence on China and fosters resilient value chains.
 - **Example:** EU firms relocating from China may invest in India under FTA protections.
- **Green Technology Transfer:** Opportunity to access cutting-edge European green innovations.
 - **Example:** India can collaborate on electric mobility and climate adaptation technologies.

SIGNIFICANCE FOR EU

- **Access to Indian Market:** Especially in luxury goods, automobiles, and services.
 - **Example:** Mercedes and BMW seek reduced import duties under FTA.

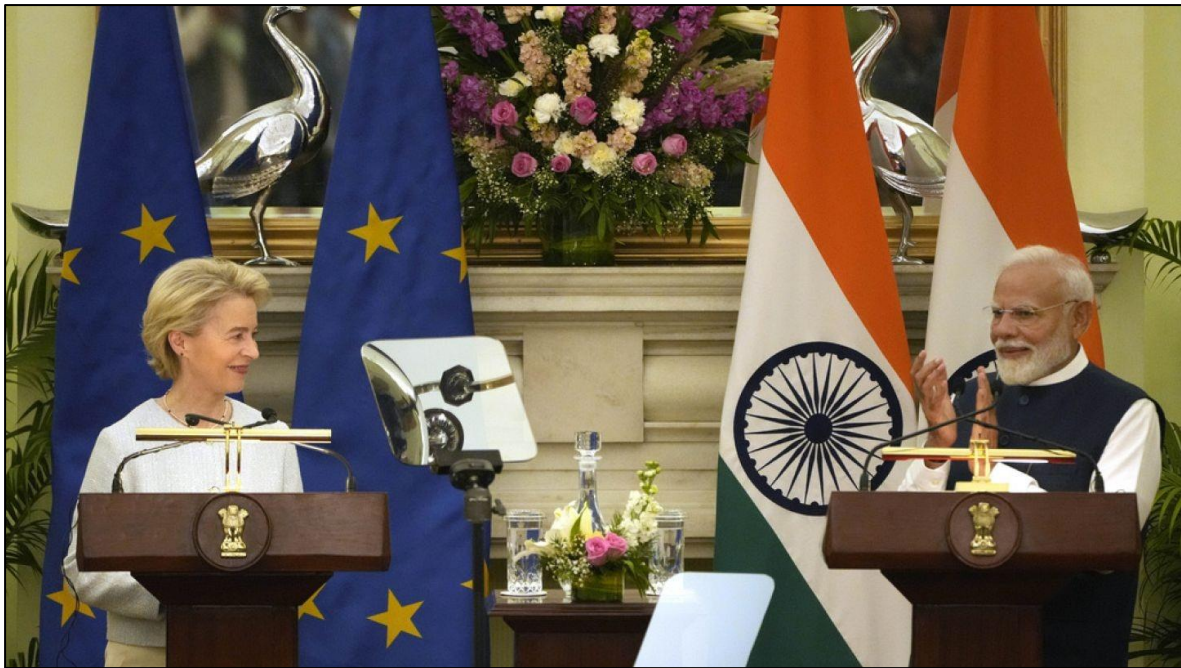
- **Strategic Balancing in Indo-Pacific:** Aligns with EU's Indo-Pacific strategy to balance China's rise.
 - **Example:** EU considers India a crucial pillar in its global outreach.
- **Talent and Demographics:** India's skilled youth can complement EU's ageing population.
 - **Example:** Indian healthcare and IT workers are essential for many EU countries.

WAY FORWARD

- **Phased Approach:** Conclude low-hanging areas first, build trust for complex chapters later.
 - **Example:** Goods and services could be settled first; IP and digital trade in phase two.
- **Strengthen Institutional Mechanisms:** Regular meetings, expert working groups, and grievance redressal forums.
 - **Example:** Use the India-EU Trade and Technology Council to resolve issues efficiently.
- **Domestic Reforms:** India needs to align standards in labour, environment, and dispute mechanisms to EU expectations.
 - **Example:** Improving domestic capacity on SPS/TBT compliance can ease trade.
- **Stakeholder Engagement:** Involve industry, academia, and civil society in negotiations to address concerns.
 - **Example:** Indian pharma and auto industries need clarity on investment rules and market access.

CONCLUSION

The **India-EU Free Trade Agreement**, when finalised, will be a **landmark deal** linking two of the world's largest democracies with strong economic potential. Though negotiations are complex, a **balanced, mutually beneficial agreement** will significantly boost **trade, investment, innovation, and geopolitical cooperation**.



FINANCIAL ACTION TASK FORCE (FATF)

News: India is submitting a dossier to the **Financial Action Task Force (FATF)**, urging the re-listing of Pakistan in the grey list due to non-compliance with previous commitments on terror financing and money laundering.

WHAT IS FATF?

- Founded in 1989 during the G7 Summit in Paris to combat money laundering.
- **Mandate Expansion**, Post-9/11, its scope widened to include counter-terrorist financing (CFT) and later, counter-proliferation financing (CPF).
- **Headquarters:** Paris, France.
- **Membership:** 39 members, including major economies and regional organizations like the European Commission and Gulf Cooperation Council.
- **Function:** Sets international standards to prevent illegal financial activities and evaluates countries' compliance through mutual assessments.



ORIGIN :

- It was established in **1989 during the G7 Summit** in Paris in response to a growing concern about money laundering.
- In 2001, its mandate expanded to include terrorism financing.

MEMBERS :

- **To become a member, a country must be considered strategically important** (large population, large GDP, developed banking and insurance sector, etc.), must **adhere to globally accepted financial standards**, and be a **participant in other important international organizations**.
- FATF members include **39 countries**, including the **United States, India, China**, Saudi Arabia, Britain, Germany, France, and the **EU** as such.
- In addition, more than 180 countries worldwide are affiliated with the FATF through a network of FATF-style regional bodies (FSRBs).
- **India became a member of FATF in 2010**. India is also a member of two FATF Style Regional Bodies (FSRBs)-Asia Pacific Group (APG) and Eurasian Group of Combating Money Laundering and Financing of Terrorism (EAG).



FATF LISTS: GREY AND BLACK

GREY LIST (JURISDICTIONS UNDER INCREASED MONITORING)

- **Definition:** Countries with strategic deficiencies in AML/CFT regimes but committed to resolving them.
- **Implications:**
 - Increased scrutiny from international financial institutions.
 - Potential reduction in foreign investment and aid.
- **Process:** Countries work with FATF to develop an action plan with timelines to address deficiencies.

BLACK LIST (HIGH-RISK JURISDICTIONS SUBJECT TO A CALL FOR ACTION)

- **Definition:** Countries with significant strategic deficiencies in AML/CFT regimes and non-cooperative in addressing them.
- **Implications:**
 - Subject to countermeasures, including sanctions.
 - Isolation from the international financial system.
- **Current Countries (as of June 2024):**
 - North Korea
 - Iran
 - Myanmar

INDIA'S ROLE IN FATF

- **Membership:** Full member since 2010.
- **Regional Bodies:** Member of Asia/Pacific Group on Money Laundering (APG) and Eurasian Group (EAG).
- **Compliance:**
 - Compliant with 37 out of 40 FATF recommendations.
 - Rated "moderately effective" in money laundering investigations and prosecutions.

- **Recent Developments:**

- Urged to enhance supervision of non-financial sectors and expedite prosecutions.
- Advised to improve scrutiny of politically exposed persons (PEPs).

- **Strategic Actions:**

- Advocating for Pakistan's re-inclusion in the grey list due to concerns over terror financing.



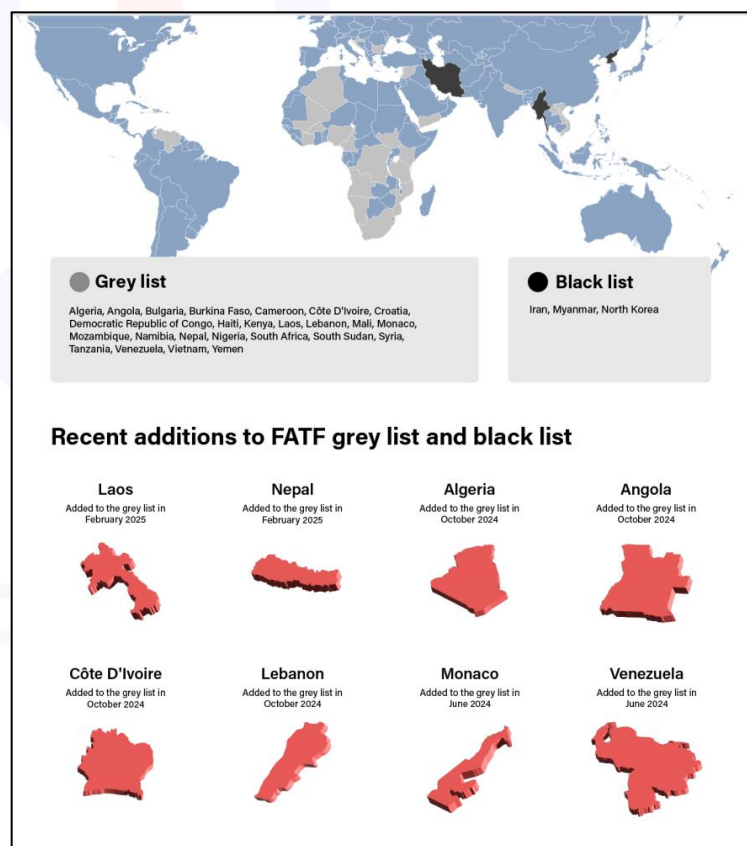
PAKISTAN'S HISTORY WITH THE FATF GREY LIST

- **2008:** First inclusion due to AML/CFT deficiencies.
- **2012:** Re-listed for inadequate measures against terror financing.
- **2015:** Removed after making significant progress.
- **2018:** Re-included for failing to act against terror financing.
- **2022:** Removed after implementing a 34-point action plan.
- **2025:** India pushing for re-inclusion citing non-compliance with commitments.

COUNTRIES CURRENTLY ON THE GREY LIST (AS OF FEBRUARY 2025)

- Algeria

- Angola
- Bulgaria
- Burkina Faso
- Cameroon
- Côte d'Ivoire
- Croatia
- Democratic Republic of the Congo
- Haiti
- Kenya
- Lebanon
- Mali
- Monaco
- Mozambique
- Namibia
- Nigeria
- Philippines
- South Africa
- South Sudan
- Syria
- Tanzania
- Venezuela
- Vietnam
- Yemen



IMPLICATIONS OF GREY AND BLACK LISTINGS

- **Economic Impact:**
 - Reduced foreign investment.

- Higher borrowing costs.
- Potential sanctions.
- **Political Impact:**
 - International pressure to reform.
 - Strained diplomatic relations.
- **Financial Sector Impact:**
 - Increased scrutiny of transactions.
 - Challenges in correspondent banking relationships.



FATF'S EVALUATION PROCESS

- **Mutual Evaluations:** Comprehensive assessments of a country's AML/CFT framework.
- **Follow-Up Reports:** Regular updates on progress made post-evaluation.
- **Action Plans:** Tailored plans for countries on grey or black lists to address deficiencies.

INDIA'S STRATEGIC INTERESTS IN FATF

- **Counter-Terrorism:** Using FATF mechanisms to pressure countries supporting terrorism.
- **Financial Integrity:** Strengthening domestic AML/CFT measures to enhance global financial standing.

- **Diplomatic Leverage:** Engaging in FATF to influence international norms and standards.

CONCLUSION

Understanding FATF's role and mechanisms is crucial for comprehending global efforts against financial crimes. India's active participation underscores its commitment to maintaining financial integrity and combating terrorism financing. Monitoring developments related to FATF listings, especially concerning neighboring countries, remains vital for India's strategic and security interests.



OPEC+ TARGETS U.S. SHALE OIL

News: OPEC+ is increasing oil output to punish overproducing members and target U.S. shale production, aiming to regain market share from the U.S. After a failed price war a decade ago.

WHAT IS OPEC?

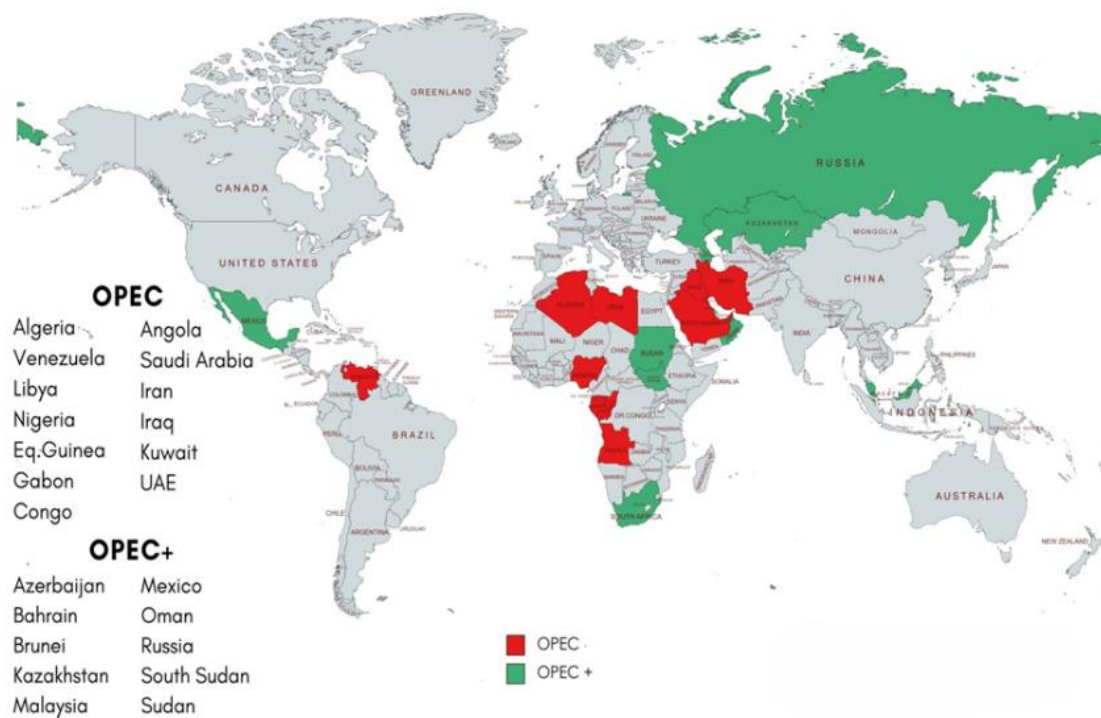
- The Organization of the Petroleum Exporting Countries is permanent, inter-governmental organization established at the Baghdad Conference in 1960.
- **Founding members:** Iran, Iraq, Kuwait, Saudi Arabia, and Venezuela.
- **Member countries:** Algeria, Congo, Gabon, Equatorial Guinea, Iraq, Iran, Kuwait, Libya, Nigeria, Saudi Arabia, UAE, and Venezuela. Gabon rejoined the group in 2016.
- **Secretariat:**
 - Vienna, Austria.
- **Objective:**
 - To secure fair and stable prices for petroleum producers; an efficient, economic, and regular supply of petroleum to consuming nations; and a fair return on capital to those investing in the industry.
 - It operates on the principle of unanimity, and one member, one vote.

WHAT IS THE SIGNIFICANCE?

- 80% of the world's proven crude oil reserves are located in the grouping Member Countries.
- India sources about 70% of crude oil, 60% of its Liquefied Petroleum Gas (LPG), and 30% of its liquefied natural gas (LNG), and 45% of petroleum products demand from OPEC.

ITS PUBLICATION:

- World Oil Outlook



WHAT IS OPEC+?

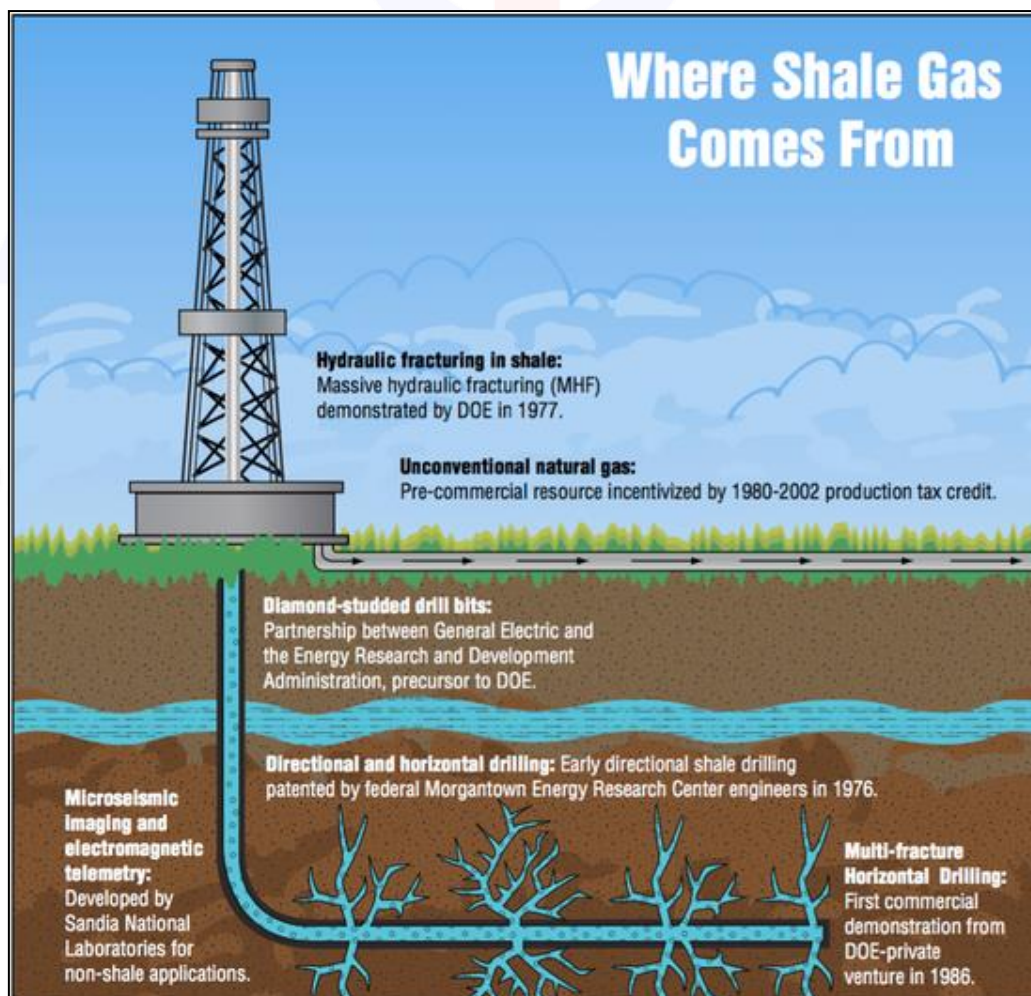
- OPEC Plus refers to non-OPEC countries (10) that export crude oil in addition to the 12 OPEC member nations.
- Also known as the Vienna Group, it was created in 2016.
- It pumps around 40% of the world's crude oil.
- These countries signed a Declaration of Cooperation undertaking a production adjustment to achieve lasting stability in the oil market in the interest of oil producers and consumers.

OPEC Countries	Non – OPEC Countries
Algeria, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, the Republic of the Congo, Saudi Arabia, the United Arab Emirates and Venezuela. Former Opec members: Angola, Ecuador, Indonesia, and Qatar	Azerbaijan, Bahrain, Brunei, Kazakhstan, Malaysia, Mexico, Oman, Russia, South Sudan, and Sudan.

OPEC (Organization of the Petroleum Exporting Countries) is an intergovernmental organization that includes major oil-producing nations. India is a major consumer of oil but not a member of OPEC. India's economy is significantly impacted by OPEC+ (OPEC and non-OPEC oil producers) policies and global oil price fluctuations due to its heavy reliance on oil imports.

WHAT IS SHALE GAS?

- **Shale gas** is a **natural gas** (mainly 70-90 % methane) that is found trapped within **shale formations** (fine-grained sedimentary rocks).
- Unlike conventional gas, shale gas is extracted through a process called **hydraulic fracturing (fracking)** and **horizontal drilling**.
- It has gained importance in recent years due to its potential to significantly boost energy supplies.



KEY FEATURES OF SHALE GAS

- **Unconventional Resource:** Not extracted using traditional drilling; requires high-tech methods like fracking.
- **Abundant Reserves:** Found in many parts of the world, especially in sedimentary basins.
- **Cleaner Fuel:** Emits less CO₂ than coal and oil when burned.
- **Economic Impact:** Helps reduce import dependence and can bring energy security.
- **Environmental Concerns:**
 - Groundwater contamination
 - Induced seismic activity (earthquakes)
 - High water usage in fracking



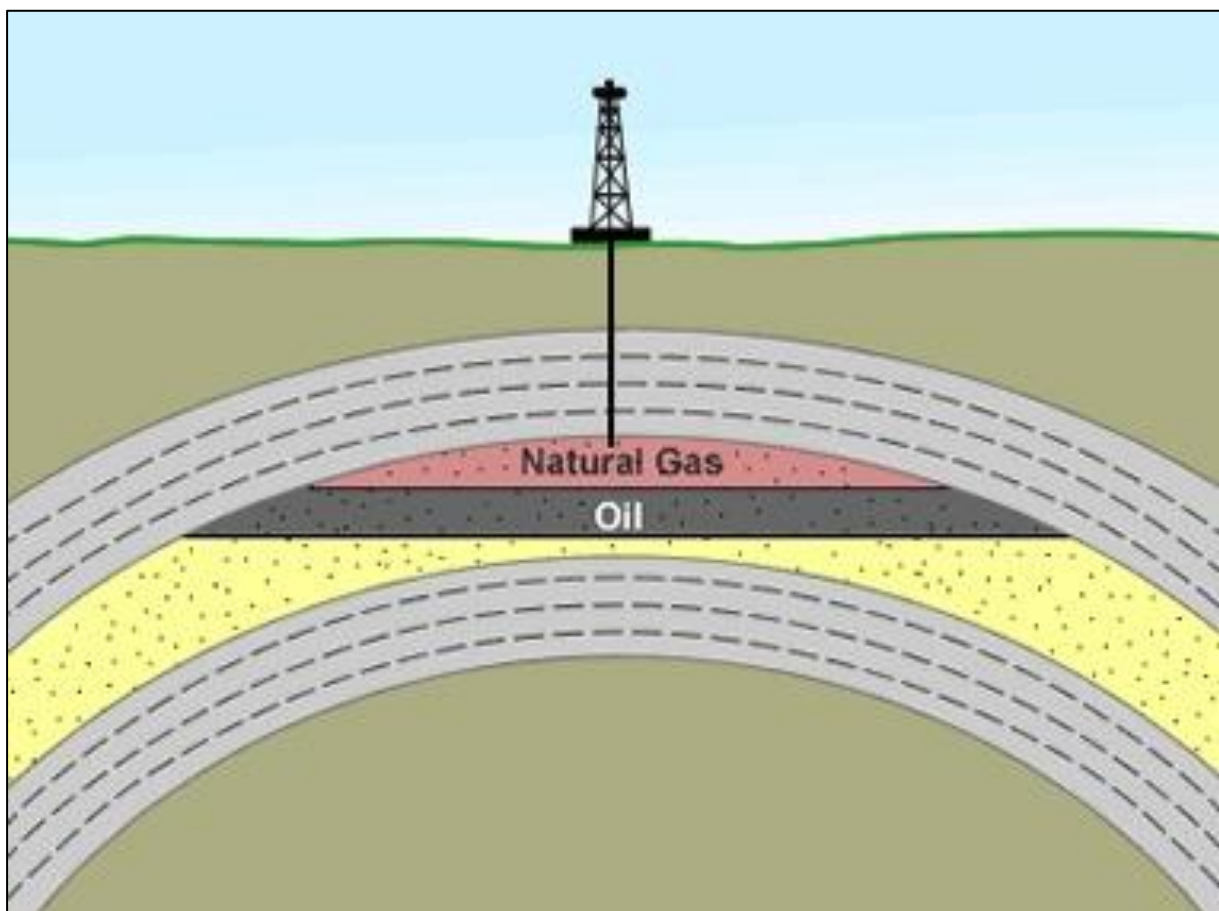
LARGEST PRODUCER OF SHALE GAS (AS OF LATEST DATA) :

- **United States of America (USA)** is the **largest producer of shale gas** in the world.
 - The **Shale Gas Revolution** began in the early 2000s in the USA.
 - Major shale basins: **Marcellus, Barnett, Haynesville, Eagle Ford**
 - It made the U.S. energy-independent and a major **LNG exporter**.

SHALE GAS STATUS IN INDIA

- **Potential Reserves:**
 - India has **technically recoverable shale gas reserves**, but they are not yet commercially exploited.
 - Key basins with shale potential:
 - **Cambay Basin** (Gujarat)
 - **Krishna-Godavari Basin** (Andhra Pradesh)
 - **Cauvery Basin** (Tamil Nadu)
 - **Damodar Valley** (Jharkhand/West Bengal)
 - **Assam-Arakan Basin**
- **Exploration Policy:**
 - In 2013, the Indian government allowed **state-owned companies (ONGC & OIL)** to explore shale gas.
 - Later, **Hydrocarbon Exploration Licensing Policy (HELP)** allowed unified licenses for conventional and unconventional hydrocarbons.
- **Challenges:**
 - **Technology:** Limited domestic experience in fracking.

- **Water availability:** Fracking requires large amounts of water.
- **Land acquisition and environmental concerns**
- **Low economic viability** compared to the U.S.
- **Current Status:**
 - **No commercial production** of shale gas in India as of now.
 - **Pilot projects** by ONGC are ongoing, but large-scale extraction is not expected soon.



PM E-DRIVE SCHEME

News: In a major step toward sustainable clean urban mobility, the Ministry of Heavy Industries (MHI) will deploy electric buses under the PM Electric Drive Revolution in Innovative Vehicle Enhancement (PM E-DRIVE) Scheme, with a focus on major cities like Bengaluru, Hyderabad, Delhi, and Ahmedabad.



WHAT IS PM E-DRIVE SCHEME?

- PM e-Drive Scheme (also referred to as Electric Mobility Promotion Scheme, 2024).
- **Launched By:** Ministry of Heavy Industries, Government of India.
- **Launch Date:** Effective from **April 1, 2024**.
- **Duration:** Initially valid for **4 months** – from April 1 to July 31, 2024.
- **Replaces:** The scheme succeeds the **FAME-II (Faster Adoption and Manufacturing of Hybrid and Electric Vehicles)**, which ended on March 31, 2024.
- **Vision:** Support India's goal of becoming a global hub for electric vehicles and achieve **net-zero emissions by 2070**.

WHAT ARE THE OBJECTIVES OF THE SCHEME?

- Promote **widespread adoption of electric vehicles (EVs)** in India.
- Provide financial incentives to make EVs **affordable for end-users**.
- **Boost domestic manufacturing** of electric 2-wheelers and 3-wheelers.

- Support the government's aim of creating a **cleaner, greener transportation ecosystem**.
- **Reduce reliance on fossil fuels** and curb urban air pollution.



WHAT IS THE FINANCIAL ALLOCATION?

- **Total Budget Allocation:** ₹500 crore for the 4-month period.
- This budget is dedicated to providing **subsidies/incentives** on EV purchases.

WHAT ARE THE VEHICLE CATEGORIES COVERED?

The scheme provides support for the following categories:

- **Electric Two-Wheelers (e-2W)**
- **Electric Three-Wheelers (e-3W)** including:
 - **e-rickshaws**
 - **e-autos**
 - **large three-wheelers for cargo transport**

SUBSIDY DETAILS AND INCENTIVES

- The incentives are provided as **Demand Incentives**, i.e., per vehicle sold.

FOR ELECTRIC 2-WHEELERS:

- **Subsidy Amount:** ₹10,000 per vehicle.
- **Eligibility:** Must be high-speed models used for personal mobility.
- **Total Units Covered:** Around **3.3 lakh e-2Ws** are targeted.

FOR ELECTRIC 3-WHEELERS:

- **e-Rickshaws and e-Carts:**
 - **Subsidy:** ₹25,000 per vehicle.
- **Large e-Autos (L5 category):**
 - **Subsidy:** ₹50,000 per vehicle.
- **Total 3-Wheelers Targeted:** Approximately **31,000 e-3Ws**.

The scheme aims to **set up 72,300 public fast chargers in key cities** and select highways to boost EV adoption.

Bharat Heavy Electricals Ltd (BHEL), a public sector unit under the MHI, will develop a digital “**Super App**” for **EV users** to book slots, make payments, and check charger availability.

KEY FEATURES OF THE SCHEME

- **Affordability:** Brings down upfront costs of EVs, making them more accessible.
- **Localization:** Vehicles must meet minimum localization (domestic content) requirements.
- **Technology-Neutral:** Open to all types of battery technologies, including Lithium-ion.
- **Direct Benefit:** The subsidy is passed on directly to the consumer by the manufacturer.

- **Online Monitoring:** All claims and vehicle sales are recorded digitally through a dedicated portal.



ELIGIBILITY CRITERIA

FOR VEHICLES :

- Must be **approved and registered** as electric vehicles by the Ministry of Road Transport and Highways.
- Must meet performance and safety standards as per government norms.
- Should be fitted with **advanced batteries** (mostly Lithium-ion).

FOR MANUFACTURERS :

- Must be **registered under the scheme** with the Ministry of Heavy Industries.
- Required to meet **localization norms** as defined by the scheme.

IMPLEMENTATION MECHANISM

- **Administered by:** Ministry of Heavy Industries (MHI).

- **Nodal Agency:** Automotive Research Association of India (ARAI) and National Automotive Board (NAB) support evaluation and technical approvals.
- **Dealer Role:** Authorized dealers sell eligible EVs at subsidized rates to consumers.
- **Payment Mechanism:** Manufacturers claim subsidies from the government after sale verification.

ENVIRONMENTAL AND ECONOMIC IMPACT

- Helps reduce **greenhouse gas emissions** and improve **urban air quality**.
- Promotes **sustainable urban mobility** in major cities and rural areas.
- Encourages **innovation and R&D** in the EV sector.
- Reduces dependency on **imported oil**, saving foreign exchange.
- Supports employment generation in EV manufacturing, servicing, and infrastructure development.

WHAT IS THE FAME INDIA SCHEME?

- **FAME India** is a part of the **National Electric Mobility Mission Plan**.
- The scheme's main objective is to encourage the adoption of electric and hybrid vehicles by **offering upfront incentives on purchase**.
- The scheme covers **Hybrid and electric** technologies like **Mild Hybrid, Strong Hybrid, Plug-in Hybrid and battery Electric Vehicles**.

PHASE I:

- Started in 2015 and was completed on 31st March 2019, with an outlay of Rs 895 crore.
- The 1st phase of FAME The scheme had four focus areas namely, technology development, demand creation, pilot project, and charging infrastructure.

- **Achievements:**

- In the **1st phase of the scheme**, about **2.78 lakh xEVs** were supported with total demand incentives. In addition, 465 buses were sanctioned to various cities/states under this scheme.

FAME INDIA PHASE-II:

- The **Ministry of Heavy Industries** is implementing the scheme for five years, starting April 1, 2019, with a total budget of Rs. 10,000 crore.
- This phase mainly focuses on supporting the **electrification of public & shared transportation** and aims to support through demand incentive **eBuses, e-3 Wheelers, e-4 Wheeler Passenger Cars and e-2 Wheelers**.
 - In addition, the creation of charging infrastructure is also supported under the Scheme.

COMPARISON WITH FAME-II SCHEME

Feature	FAME-II	PM e-Drive
Duration	2019–2024	April–July 2024
Budget	₹10,000 crore	₹500 crore
Vehicle Types	2W, 3W, 4W, buses	Only 2W and 3W
Incentive Range	Higher, varied	Targeted, moderate
Objective	Industry-wide support	Transition support until new policy

WORLD HYDROGEN SUMMIT 2025

News: At the World Hydrogen Summit 2025 in Rotterdam, Netherlands, the Ministry of New & Renewable Energy outlined India's initiatives to emerge as a global hub for green hydrogen production.



WHAT IS WORLD HYDROGEN SUMMIT?

- The World Hydrogen Summit & Exhibition 2025 is scheduled to take place from **May 20–22, 2025**, in **Rotterdam, Netherlands**.
- **Significance:** Recognized as the largest and most senior global hydrogen event, it serves as a pivotal platform for industry leaders to assess progress and strategize for the future of hydrogen energy.

KEY FEATURES :

- Attendance of over **15,000 global industry experts**.
- **C-Level Summit** sessions focusing on high-level discussions.
- The **largest hydrogen-focused exhibition** worldwide.
- **Africa Hydrogen Forum** addressing regional opportunities.
- **H2 Tech Series Stages** showcasing technological advancements.
- Presentation of the **World Hydrogen Awards**.
- Site visits to hydrogen projects at the **Port of Rotterdam**.

PURPOSE :

- The summit aims to facilitate knowledge exchange, foster new alliances, and catalyze bold agreements to propel hydrogen project developments into the 2030s.



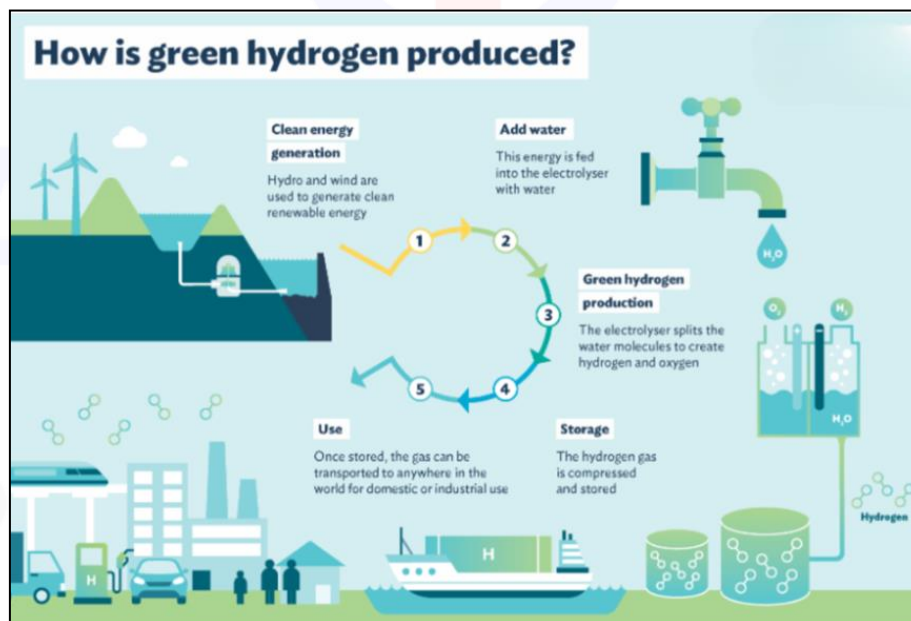
WHAT IS HYDROGEN?

- Hydrogen is the simplest and most abundant chemical element in the universe, symbolized as **H** with an atomic number of **1**.
- **Physical Properties:**
 - Colorless, odorless, tasteless, and highly flammable gas.
 - Exists as a diatomic molecule (**H₂**) under standard conditions.
 - Lightest element, making up about **75%** of the universe's elemental mass. Encyclopedia Britannica
- **Natural Occurrence:**
 - Found in water (H₂ O), organic compounds, and all living organisms.
 - Rarely found in its pure gaseous form on Earth due to its reactivity.
- **Energy Carrier:**
 - Hydrogen is not a primary energy source but an energy carrier, meaning it stores and delivers energy produced from other sources.
- **Applications:**

- Used in fuel cells to generate electricity, emitting only water vapor.
- Employed in refining processes, ammonia production, and as a fuel for vehicles.

WHAT IS GREEN HYDROGEN (GH₂) ?

- Green hydrogen is produced by splitting water into hydrogen and oxygen using **electrolysis**, powered exclusively by renewable energy sources like wind or solar. This process results in zero carbon emissions.
- **Production Process:**
 - **Electrolysis:** An electric current is passed through water, separating it into hydrogen and oxygen gases.
 - When powered by renewables, the hydrogen produced is termed "green."



- **Environmental Benefits:**
 - Produces no greenhouse gas emissions during production or combustion.
 - Helps in decarbonizing sectors that are hard to electrify, such as heavy industry and long-haul transport.

- **Challenges:**

- Currently more expensive than hydrogen produced from fossil fuels.
- Requires significant investment in renewable energy infrastructure and electrolyzes.

- **Global Initiatives:**

- Countries like India have approved substantial plans to support green hydrogen production, aiming to become global hubs for this emerging industry.

WHAT ARE OTHER TYPES OF HYDROGEN?

Brown Hydrogen	Grey Hydrogen	Blue Hydrogen	Green Hydrogen
Hydrogen produced when coal is transformed under high pressure conditions, and the resulting carbon dioxide is released back into the air.	Hydrogen produced when natural gas is transformed by burning methane and the resulting carbon dioxide is released back into the air.	Hydrogen produced from natural gas , but the output carbon dioxide is captured and stored thereby avoiding carbon emissions.	Hydrogen extracted from water using a method called electrolysis that is powered by renewable energy such as wind/solar

Hydrogen is categorized based on its production methods and associated emissions, often referred to by different colors:

- **Grey Hydrogen:**

- Produced from natural gas or methane through steam methane reforming without capturing the resulting CO₂ emissions.
- Currently the most common form of hydrogen production.

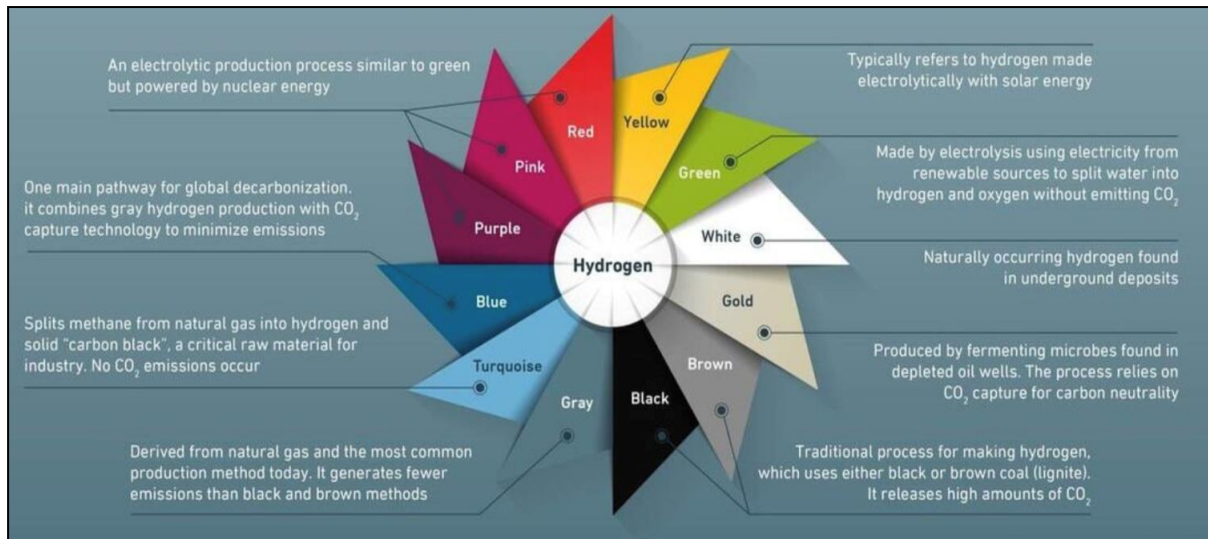
- **Blue Hydrogen:**

- Similar to grey hydrogen but incorporates **carbon capture and storage (CCS)** to trap and store CO₂ emissions.
- Considered a lower-emission alternative to grey hydrogen.
- **Black and Brown Hydrogen:**
 - Derived from black coal (black hydrogen) or lignite (brown hydrogen) through gasification.
 - These methods are the most environmentally damaging due to high CO₂ emissions.
- **Pink Hydrogen:**
 - Generated via electrolysis powered by nuclear energy.
 - Also referred to as purple or red hydrogen.
- **Turquoise Hydrogen:**
 - Produced through methane pyrolysis, resulting in hydrogen and solid carbon.
 - Still in the experimental stage with potential for lower emissions.
- **Yellow Hydrogen:**
 - Made through electrolysis using solar power.
 - A relatively new term in the hydrogen color spectrum.
- **White Hydrogen:**
 - Naturally occurring hydrogen found in underground deposits.
 - Currently no commercial extraction methods are in place

WHAT ARE INDIA'S INITIATIVES TO PROMOTE GREEN HYDROGEN?

NATIONAL GREEN HYDROGEN MISSION (NGHM)

Launch & Budget: Approved by the Union Cabinet in January 2023 with an outlay of ₹19,744 crore (~\$2.3 billion).

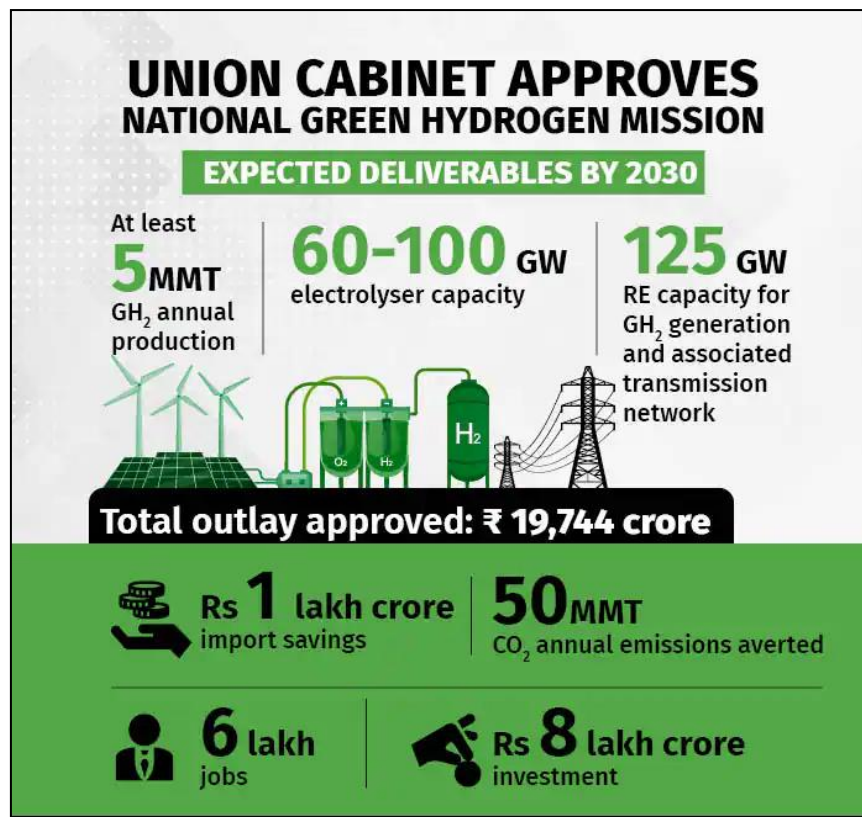


OBJECTIVES :

- Develop a green hydrogen production capacity of at least 5 million metric tons (MMT) per annum by 2030.
- Add about 125 GW of renewable energy capacity.
- Reduce dependence on fossil fuel imports.
- Abate nearly 50 MMT of annual greenhouse gas emissions.
- Create over 600,000 jobs.
- Attract investments exceeding ₹8 lakh crore (~\$96 billion).

KEY COMPONENTS :

- **Strategic Interventions for Green Hydrogen Transition (SIGHT):** Provides financial incentives for domestic manufacturing of electrolyzers and green hydrogen production.
- **Pilot Projects:** Focus on developing green hydrogen applications in sectors like steel, mobility, and shipping.
- **Research & Development:** Supports innovation in production, storage, and utilization technologies.
- **Regulations & Standards:** Establishes frameworks for safety, quality, and certification.
- **Public Awareness & Skill Development:** Promotes training programs and public engagement initiatives.



POLICY AND REGULATORY MEASURES

- **Green Hydrogen Policy (2022):**

- Waives inter-state transmission charges for renewable energy used in green hydrogen production.
- Allows banking of unconsumed renewable power for up to 30 days.
- Facilitates open access for renewable energy procurement.
- Simplifies land acquisition processes for renewable energy projects.

- **Production Linked Incentive (PLI) Scheme:**

- Offers financial incentives to manufacturers of electrolyzers and other components essential for green hydrogen production.
- Aims to boost domestic manufacturing and reduce reliance on imports.

INDUSTRIAL AND INFRASTRUCTURE DEVELOPMENTS

- **Electrolyzer Manufacturing:**

- The Solar Energy Corporation of India (SECI) has initiated tenders to establish 1,500 MW of electrolyzer manufacturing capacity under the SIGHT scheme.

- **Green Hydrogen Projects:**

- Juno Joule Green Energy Pvt Ltd, in collaboration with Germany's Select Energy GmbH, plans to set up a ₹10,000 crore green hydrogen and ammonia facility near Mulapeta port in Andhra Pradesh. The project aims to produce approximately 180 KTPA of green hydrogen by 2029, converting it into up to one million tons of green ammonia annually for export.

- **Research & Innovation:**

- The Indian Institute of Petroleum and Energy (IIPE) has partnered with Magnivia Ventures to establish an energy research park focusing on green hydrogen, battery materials, and carbon capture technologies.

MARITIME AND TRANSPORTATION INITIATIVES

- **Green Shipping:**

- India aims to transition all coastal and inland waterway shipping to renewable energy sources within the next five years. Plans include developing green hydrogen hubs at ports like Kandla, Thoothukudi, and Paradip, targeting the production of 5 MMT of green hydrogen annually by 2030.

- **Hydrogen-Powered Vehicles:**

- Chhattisgarh has introduced India's first hydrogen-powered fuel cell truck to reduce reliance on diesel and lower emissions. Developed by Adani Enterprises, the truck features three hydrogen tanks and can carry up to 40 tons of cargo over a 200-kilometer range.

INTERNATIONAL COLLABORATIONS

- **Global Partnerships:**

- India is engaging with countries like Germany and organizations such as the International Solar Alliance to collaborate on green hydrogen research, development, and deployment.

- **Export Potential:**

- The National Green Hydrogen Mission envisions India exporting about 10 MMT of green hydrogen and its derivatives annually by 2030, capturing a significant share of the global market.

Through these comprehensive initiatives, India is positioning itself as a global hub for green hydrogen production, aiming to drive economic growth, energy security, and environmental sustainability.

As India is scaling up to the **target of having 450 GW** of renewable energy by 2030, aligning hydrogen production needs with broader electricity demand in the economy would be critical.

The **industrial sectors** like steel, refining, fertilizer & methanol sectors are attractive for Green Hydrogen adoption as Hydrogen is already being generated & consumed either as a chemical feedstock or a process input.

The **public funding** will have to lead the way in the development of green hydrogen, but the private sector has significant gains too to be made by securing its energy future.

CHARAKA AND SUSHRUTA

News: The Vice-President of India addressed a gathering during the unveiling of statues of Charaka and Sushruta at Raj Bhavan, Goa.



WHO WAS CHARAKA?

- Charaka was an ancient Indian physician and scholar, regarded as one of the principal contributors to Ayurveda, the traditional system of Indian medicine.
- He lived around the **2nd century BCE to 2nd century CE**, though exact dates vary among historians.
- He is often considered one of the “**Founding Fathers of Indian Medicine**”, along with Sushruta and Vagbhata.

LEGACY AND IMPORTANCE :

- Charaka’s work emphasized the **holistic approach** to health—focusing not just on physical well-being, but also on mental and spiritual health.

- He is believed to have systematized and revised an earlier text attributed to **Agni-Vesha**, a student of sage Atreya, one of the six schools of Ayurveda.
- His version became known as the **Charaka Samhita**, and it forms one of the **three canonical texts of Ayurveda**, alongside **Sushruta Samhita** and **Ashtanga Hridaya**.
- He emphasized **preventive healthcare**, ethical conduct of physicians, and personalized treatment based on a person's constitution (**Prakriti**).



CONTRIBUTIONS :

- Advocated for **diagnosis through detailed questioning and observation**, laying the foundation for clinical medicine in India.
- Supported **rational thinking and scientific temper**.
- First to explain **genetics** and the idea that a child's characteristics are influenced by both parents and environment (foreshadowing epigenetics).
- Believed in balancing the three doshas-**Vata, Pitta, and Kapha**-for optimal health.

CHARAKA SAMHITA (THE TREATISE ON AYURVEDA)

- The **Charaka Samhita** is a Sanskrit text on Ayurveda composed of **8 sections (Sthanas)** and **120 chapters**, encompassing over **8,400 verses**.
- It is a foundational text that deals primarily with **internal medicine (Kayachikitsa)**, one of the eight branches of Ayurveda.
- It serves as a **comprehensive guide on medical theory, diagnosis, etiology, treatment, and pharmacology**.

**STRUCTURE :**

The Samhita is divided into the following **eight parts**:

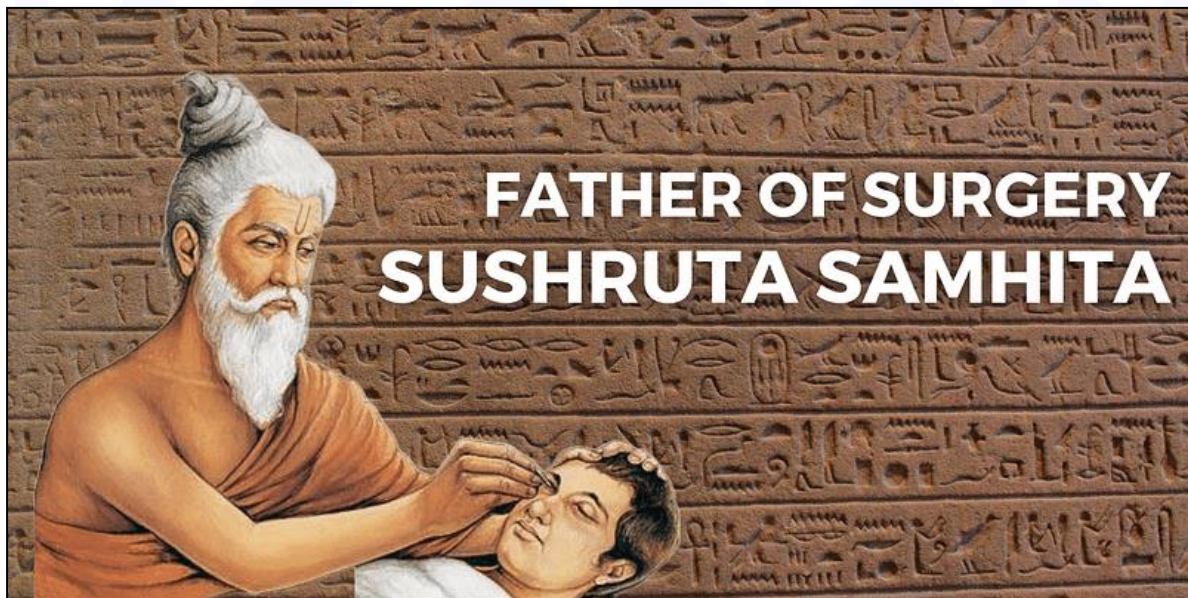
- **Sutra Sthana** – General principles and fundamentals of Ayurveda.
- **Nidana Sthana** – Causes and symptoms of diseases.
- **Vimana Sthana** – Measurement, examination, and standards.
- **Sharira Sthana** – Anatomy, physiology, embryology, and genetics.
- **Indriya Sthana** – Prognosis and signs of impending death.
- **Chikitsa Sthana** – Therapeutics and treatment methods.
- **Kalpa Sthana** – Preparation of medicines and detox treatments.
- **Siddhi Sthana** – Results and perfection of therapies like Panchakarma.

KEY THEMES :

- **Tridosha Theory:** The imbalance of Vata, Pitta, and Kapha causes diseases.
- **Diet and Lifestyle:** Major stress on wholesome diet, seasonal regimens (Ritucharya), and daily routines (Dinacharya).
- **Ethics in Medicine:** The Samhita highlights the moral conduct of a physician, bedside manners, and the importance of compassion.
- **Diagnostics:** Emphasizes observation, interrogation, palpation, and inference as means of diagnosis.

SCIENTIFIC OUTLOOK:

- Charaka's approach was analytical and evidence-based, distinguishing **Ayurveda from superstition and ritualism**.
- He accepted only **verifiable knowledge** and encouraged **clinical experimentation**.
- His descriptions of metabolism, digestion, immunity, and psychological aspects were highly advanced for his time.



SUSHRUTA (THE FATHER OF SURGERY)

WHO WAS SUSHRUTA?

- Sushruta was a pioneering ancient Indian physician and surgeon, widely regarded as the “**Father of Surgery**”.
- He is believed to have lived around the **7th to 6th century BCE**, though some sources place him as late as the 1st century CE.
- Sushruta was a disciple of **Dhanvantari**, the god of Ayurveda, who is said to have taught him the principles of surgery and medicine.
- He practiced and taught in **Kashi (modern-day Varanasi)**, one of the oldest centers of learning.

CONTRIBUTIONS TO MEDICINE AND SURGERY

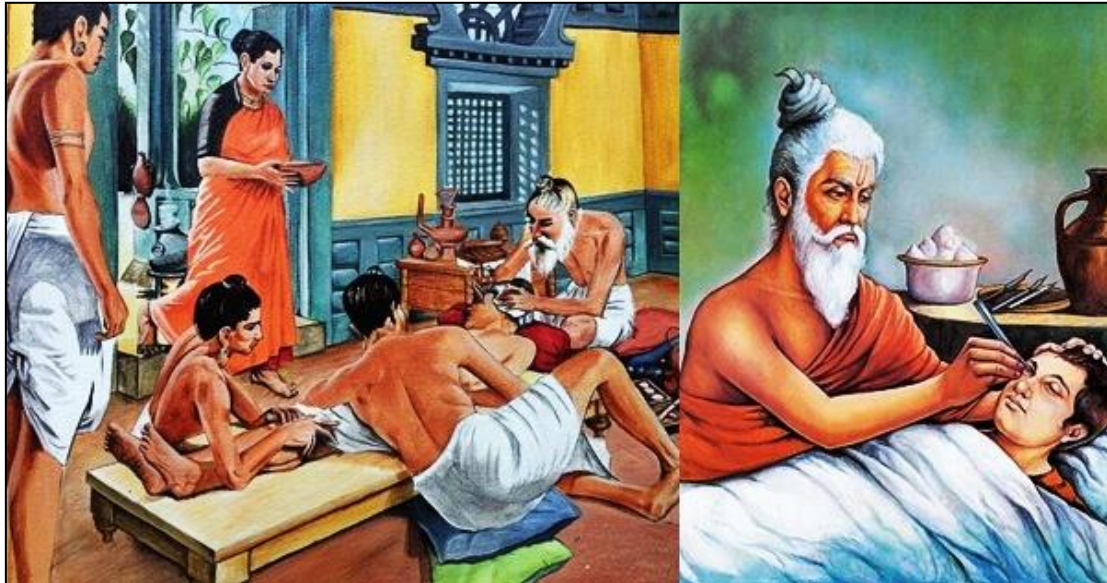
- Sushruta’s knowledge is compiled in the **Sushruta Samhita**, one of the foundational texts of Ayurveda.
- He described over **300 surgical procedures**, **120 surgical instruments**, and **8 types of surgical operations** (e.g., excision, incision, puncturing, probing, extraction).
- Credited with performing early versions of **plastic surgery**, especially **rhinoplasty (nose reconstruction)**, **cataract surgery**, and **suturing techniques**.
- He emphasized **cleanliness, sterilization, and patient care**, long before modern antiseptic practices were introduced.

SUSHRUTA SAMHITA (THE SURGICAL MANUAL)

OVERVIEW OF SUSHRUTA SAMHITA

- The **Sushruta Samhita** is an ancient Sanskrit text composed of **186 chapters** and more than **1,100 conditions and diseases** described.
- It primarily deals with **Shalya Tantra (surgery)** and also covers general medicine, pathology, anatomy, toxicology, pediatrics, geriatrics, and mental health.
- **Divided into five sections:**

- **Sutra Sthana** (Fundamentals and general principles)
- **Nidana Sthana** (Diagnosis)
- **Sharira Sthana** (Anatomy and embryology)
- **Chikitsa Sthana** (Treatment)
- **Kalpa and Uttara Tantra** (Toxicology, ENT, eyes, psychiatry, etc.)



KEY INNOVATIONS

- **Anatomy:** Advocated dissection of cadavers to understand human anatomy.
- **Surgical Techniques:**
 - Described detailed techniques for surgery on eyes, ears, head, and other organs.
 - Introduced sutures using materials like silk, thread, and even plant fibers.
- **Plastic Surgery:**
 - Famous for **rhinoplasty** to reconstruct noses of people who had them amputated as punishment.
- **Burn and Fracture Management:**
 - Described proper techniques for treating **burns, fractures, and dislocations**.

- **Surgical Instruments:**

- Documented around 120 surgical tools, including scissors, forceps, needles, and scalpels, often modeled after animals and birds' beaks and claws.

SUSHRUTA' S PHILOSOPHY AND LEGACY

MEDICAL ETHICS AND TRAINING

- Believed a surgeon should be **well-trained, compassionate, ethical**, and dedicated to continuous learning.
- Emphasized **practical training**, using vegetables, animal tissues, and dead bodies to train students before operating on humans.
- Advocated **preventive healthcare**, correct diagnosis, balanced diet, and hygiene.
- Stressed the **doctor-patient relationship** and the importance of building trust and understanding.

GLOBAL IMPACT

- Sushruta's techniques influenced later medical practices in **Greece, Arabia, and Europe**, especially during the medieval Islamic period.
- His contributions are acknowledged in global medical history and are considered precursors to many modern surgical techniques.
- Modern Indian medical colleges often refer to his techniques while teaching plastic surgery and Ayurveda.
- **UNESCO and WHO recognize** Sushruta's work as part of ancient global medical heritage.

KEEZHADI EXCAVATIONS

News: The Archaeological Survey of India (ASI) has asked Amarnath Ramakrishna, the archaeologist who led the Keezhadi excavations, to resubmit his excavation report after revisions.



WHAT IS KEEZHADI?

- **Keezhadi (or Keeladi)** is a village in **Sivaganga district**, near **Madurai**, Tamil Nadu, India.
- It is the site of a major archaeological excavation that has revealed evidence of an **urban, literate, and well-developed civilization** of the **Sangam Age**.
- The excavation is being carried out by the **Archaeological Survey of India (ASI)** and the **Tamil Nadu State Department of Archaeology**.

HISTORICAL SIGNIFICANCE

- Keezhadi is believed to be part of the **Vaigai River Valley Civilization**, dating back to **6th century BCE**.
- It challenges the long-held belief that ancient Tamil society was primarily rural and tribal.

- The findings support **literacy, urbanization, trade, and cultural development** in ancient South India, paralleling the **Indus Valley Civilization** and other ancient global civilizations.

MAJOR DISCOVERIES

- **Pottery with Tamil-Brahmi script** inscriptions, indicating **early Tamil literacy**.
- **Brick structures** suggesting organized urban planning with **drainage systems and residential complexes**.
- **Iron tools, spindle whorls, glass beads, gaming pieces, and bangles**, pointing to a **thriving lifestyle**.
- Evidence of **industry, craft specialization, and trade** with other parts of India and possibly abroad.
- Charred **rice grains and paddy husks**, showing the practice of agriculture.



CHRONOLOGY AND DATING

- Carbon dating by the **Beta Analytic Lab in Miami, USA**, placed artefacts around **580 BCE**.
- This predates the Mauryan period and shows **Tamil-Brahmi writing** existed **before Ashoka's edicts** (~3rd century BCE), thus challenging the belief that writing in South India began after northern influence.

CULTURAL AND LINGUISTIC IMPORTANCE

- Inscriptions in **Tamil-Brahmi** script prove the use of a **written Tamil language** well before classical Tamil literature.
- Reinforces claims in **Sangam literature** about an advanced Tamil society that practiced **literature, governance, and commerce**.
- Supports the idea of an **indigenous origin of Tamil writing and urbanism**, not entirely dependent on northern Indian influence.



SANGAM PERIOD (THE CLASSICAL AGE OF TAMIL CULTURE)

WHAT IS THE SANGAM PERIOD?

- The **Sangam Period** refers to the **early historic period of South India**, especially **Tamilakam** (modern Tamil Nadu, parts of Kerala, and southern Karnataka), roughly from **300 BCE to 300 CE**.
- Named after the “**Sangams**”, or literary academies, believed to have been held in **Madurai**, where Tamil poets, scholars, and kings gathered to compose and compile poetry and literature.
- It is the **earliest known phase of Tamil literature**, culture, and polity.

Sangam Period



SOURCES OF INFORMATION

- **Sangam Literature:** Composed in **classical Tamil**, this includes **Ettuthogai (Eight Anthologies)**, **Pattuppāṭṭu (Ten Idylls)**, and **Tolkāppiyam** (an ancient Tamil grammar treatise).
- **Epigraphy:** Inscriptions in **Tamil-Brahmi script** (as seen in Keezhadi) support literary records.
- **Foreign Accounts:** Descriptions by **Greek and Roman** travelers like **Ptolemy, Pliny, and Periplus of the Erythraean Sea** mention trade with Tamil kingdoms.
- **Archaeological Evidence:** Sites like **Keezhadi, Arikamedu, and Uraiyur** provide material culture dating back to this era.

POLITICAL LANDSCAPE

- The Sangam period was marked by **three major Tamil dynasties**:
 - **Cholas** – Based around the **Cauvery delta** (Uraiyur).
 - **Cheras** – Based in **Kerala** and western Tamil Nadu.
 - **Pandys** – Centered in **Madurai**.
- These kingdoms were frequently involved in **inter-tribal wars, alliances, and marital diplomacy**.
- The kings were **patrons of art, poetry, and learning**, supporting poets in their courts.



SOCIETY AND CULTURE

- Society was organized into **varnas** and **occupation-based classes**, though more flexible than in North India.
- Importance was given to **warrior (velir)** and **agricultural communities**.
- Women participated in cultural life as **poets, warriors, and traders**.

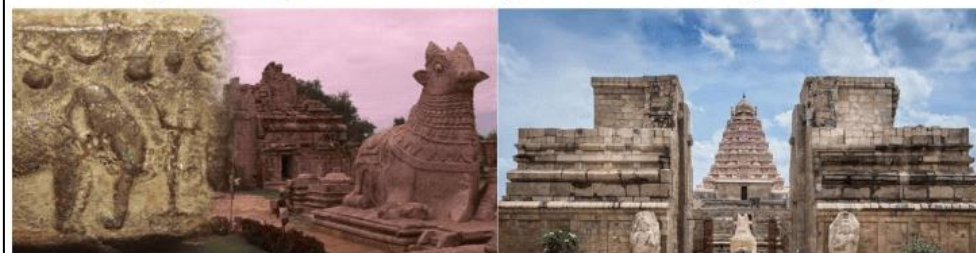
- Religion included **ancestor worship, hero worship, animism, Shaivism, and Vaishnavism**, but not in organized forms.
- Worship of deities like **Murugan, Kotravai (war goddess), and Indra** was common.
- The people followed **five ecological divisions (Tinai)**: Kurinji (mountains), Mullai (forest), Marutham (farmland), Neythal (seashore), and Palai (desert) – each associated with particular lifestyles and emotions in literature.

ECONOMY AND TRADE

- Economy was primarily **agricultural**, supported by **trade, crafts, and seafaring**.
- Crops like **rice, millets, and sugarcane** were cultivated.
- The region had active **maritime trade** with **Rome, Greece, Arabia, and Southeast Asia**.
- Ports like **Puhar, Arikamedu, and Korkai** were major trade centers.
- Coins from **Roman emperors like Augustus and Nero** have been found in Tamil Nadu, evidencing trade.
- Exports included **pearls, spices, ivory, textiles, and precious stones**.



Sangam Age: Economy of the Sangam Age



LITERATURE AND LEGACY

- The **Sangam poems** celebrate **love (Akam)** and **war (Puram)**, portraying both emotional and heroic aspects of life.
- Notable poets include **Kapilar**, **Avvaiyar**, **Paranar**, and **Nakkeerar**.
- The literature reflects **ethical values**, **human emotions**, **landscape-based themes**, and **realism**.
- **Tolkāppiyam** not only deals with grammar but also **sociology**, **ethics**, and **poetics**.
- This period laid the foundation for **Tamil language**, **identity**, and **classical traditions**.



E-ZERO FIR SYSTEM

News: Union Home Minister Amit Shah announced the launch of the e-Zero FIR system, under which cyber financial crime complaints involving over ₹10 lakh reported via the 1930 helpline or the National Cybercrime Reporting Portal (NCRP) will be automatically converted into FIRs.

The initiative, implemented by the Indian Cyber Crime Coordination Centre (I4C), aims to enable faster tracking and action against cybercriminals.



WHAT IS FIR (FIRST INFORMATION REPORT) ?

- FIR is the **first report** made to the police by a complainant or informant regarding the commission of a **cognizable offence**.
- **Legal Basis:** Governed by **Section 154 of the Criminal Procedure Code (CrPC), 1973**.
- **Purpose:** It sets the **criminal law in motion** and initiates the **investigation process**.
- **Nature:** FIR must be in **writing**, signed by the complainant, and **recorded by the officer-in-charge**.

- **Cognizable Offences:** These include crimes like **murder, rape, kidnapping, theft**, etc., where police can arrest without magistrate approval.
- **Mandatory Registration:** Police are bound to **register FIRs** in cognizable offences (Supreme Court in *Lalita Kumari vs. Govt. of U.P.*, 2013).
- **Right to Copy:** The complainant has the **right to receive a free copy** of the FIR (Section 154(2), CrPC).
- **Effect:** Once registered, FIR cannot be withdrawn but can be quashed by **High Courts under Section 482 CrPC**.

FIRs under New Criminal Laws (2024 Onward)

New Legal Framework:

- Bharatiya Nyaya Sanhita (BNS), 2023
- Bharatiya Nagarik Suraksha Sanhita (BNSS), 2023
- Bharatiya Sakshya Adhinyam (BSA), 2023
- These three laws replaced the IPC, CrPC, and Indian Evidence Act respectively, effective July 1, 2024.

Victims can now lodge FIRs electronically, removing the need to visit a police station in person.

Under Section 173 of BNSS, police must register Zero FIRs, strengthening victim-centric policing.

WHAT IS ZERO FIR?

- Zero FIR is an **FIR registered at any police station**, regardless of the jurisdiction where the crime occurred.
- It is given a “**zero**” **serial number** initially and later **transferred** to the police station with proper jurisdiction.
- **Origin:** Introduced after recommendations by the **Justice Verma Committee (2013)** post the Nirbhaya case.

- **Legal Validity:** There is **no statutory mention in CrPC**, but it is **accepted in practice and court rulings** for public safety.
- **Use Case:** Meant for **urgent crimes** such as **rape, murder, accident, missing person, and cybercrime**.
- **Purpose:** To ensure **no delay** in registering complaints due to jurisdictional boundaries.
- **Supreme Court Support:** Reiterated that FIR must be registered **immediately**, jurisdiction is not a ground for refusal.
- **Transfer Process:** After initial entry, the Zero FIR is **digitally or manually transferred** to the appropriate police station.



PURPOSE AND OBJECTIVES OF E-ZERO FIR SYSTEM

- **Digital Adaptation:** e-Zero FIR is the **online mechanism** of Zero FIR to make complaint registration more accessible.
- **Immediate Justice:** Enables **instant FIR filing** in emergencies **without physical travel** to police stations.
- **Jurisdiction-Free Access:** Allows people to **report crimes from anywhere**, especially useful when travelling or in remote areas.
- **Victim-Centric Approach:** Especially helps **women, children, senior citizens, and marginalized communities**.

- **Encourages Reporting:** Promotes reporting of **underreported crimes** like cyberbullying, harassment, and domestic abuse.
- **Reduces Delay:** Eliminates delays due to **jurisdiction confusion or refusal by officers**.
- **Transparency:** Makes the process **more transparent**, documented, and **free of manipulation**.
- **Integration with Technology:** Part of larger digital governance projects like **CCTNS** (Crime and Criminal Tracking Network and Systems).

HOW E-ZERO FIR WORKS – STEP-BY-STEP PROCESS

- **Access Portal:** Visit State Police Portal or **CCTNS Citizen Portal**.
- **Login/Register:** Create an account using mobile number, Aadhaar, or email.
- **Select Option:** Choose **“File FIR”** or **“Register Complaint”** from the home screen.
- **Fill Details:**
 - Complainant’s name and contact
 - Incident details (type of crime, date, time)
 - Suspect identity (if any)
 - Crime location (even if outside the current area)
 - Attach documents/photos
- **Submission:** Submit the complaint; a **reference number** is auto-generated.
- **Verification:** The Officer-in-Charge verifies the complaint to see if it qualifies as a **cognizable offence**.
- **e-Zero FIR Registration:** If approved, a **Zero FIR is filed online**, tagged with zero number.
- **Transfer:** It is **digitally forwarded** to the concerned jurisdictional police station.

- **Acknowledgment:** The complainant receives an **SMS/email acknowledgment** with FIR details.
- **Tracking:** Status of the FIR can be **monitored online**.



KEY FEATURES OF E-ZERO FIR SYSTEM

- **Jurisdiction-Neutral:** Allows FIRs to be registered from **any location**, regardless of where the crime occurred.
- **24x7 Accessibility:** Available **anytime, anywhere** via the internet or mobile app.
- **User-Friendly Interface:** Simple interface with **language support** and clear instructions.
- **Secure Login:** Verified user login with **OTP or Aadhaar**.
- **Transparency:** Complainants can **track status**, download FIR copy, and receive updates.
- **Paperless System:** Entire process is **digital**, reducing delays and loss of paperwork.

- **Auto Routing:** FIRs are **automatically routed** to appropriate police stations based on location.
- **Data Integration:** Connected to **CCTNS**, **ICJS**, and **National Crime Records Bureau (NCRB)** systems.
- **Real-time Notifications:** Citizens receive SMS/email alerts on complaint progress.
- **Victim Support:** Some portals provide **helpline integration, legal aid**, and access to protection services.

PLATFORMS PROVIDING E-ZERO FIR SERVICES

- **CCTNS Citizen Portal:** https://citizen.*****.gov.in – Nationwide platform for FIR services.

STATE POLICE WEBSITES:

- **Delhi Police** (<https://delhipolice.gov.in>)
- **Maharashtra Police** (<https://citizen.mahapolice.gov.in>)
- **Tamil Nadu Police** (<https://eservices.tnpolice.gov.in>)
- **Karnataka Police** (<https://ksp.karnataka.gov.in>)

MOBILE APPS:

- **Delhi Police One Touch**
- **TN Police Citizen App**
- **Hawk Eye** (Telangana Police)
- **National Cyber Crime Reporting Portal:** <https://cybercrime.gov.in> for cyber complaints and e-FIR.

WOMEN SAFETY APPS:

- **Himmat App** (Delhi)
- **Raksha App**
- **Suraksha App** (Karnataka)
- **112 Emergency Helpline:** Unified emergency response system integrated with e-FIR systems.

BENEFITS OF E-ZERO FIR SYSTEM

- **Time-Saving:** Eliminates travel to police stations; complaint filed from home.
- **Victim-Friendly:** Especially useful for **women, disabled, and rural citizens**.
- **Speedy Registration:** Ensures **faster action**, especially in **time-sensitive crimes**.
- **Reduces Police Harassment:** Minimizes **police discretion**, reduces refusal to register FIR.
- **Increases Reporting:** Encourages **more people to report crimes**, especially in rural or backward areas.
- **Transparent Process:** Real-time complaint tracking and digital records ensure **accountability**.
- **Supports Policing Goals:** Helps police in **crime data collection**, predictive policing, and analytics.
- **Secure and Confidential:** Ensures **anonymity in sensitive cases**, including sexual violence.
- **Empowers Citizens:** Builds **trust in law enforcement** and promotes digital inclusion.
- **Legal Evidence:** Digital records serve as **authentic legal documents** in court.

CONCLUSION

The **e-Zero FIR system** is a landmark innovation in the digital transformation of Indian policing. It brings together the **legal validity of FIRs**, the **accessibility of digital platforms**, and the **citizen-friendly approach** of Zero FIRs. While challenges such as digital literacy and infrastructure gaps remain, the system has enormous potential to **revolutionize crime reporting**, **enhance police accountability**, and **strengthen democracy** through **equal access to justice**.




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PLACES IN NEWS

MOUNT LEWOTOB I LAKI-LAKI

News: Mount Lewotobi Laki-laki in Indonesia erupted multiple times over the weekend and again on Monday, prompting the government to raise the alert level to the highest tier.



MOUNT LEWOTOB I LAKI-LAKI :

- It is a stratovolcano forming part of a twin volcanic system with Lewotobi Perempuan, often symbolised as a “husband-wife” pair.
- Located in Southeast Flores Island, Indonesia; part of the Lesser Sunda Islands volcanic arc.
- Twin peaks: Laki-laki (more active) and Perempuan (less active).
- Formed due to subduction of the Indo-Australian Plate beneath the Eurasian Plate.
- Known for frequent eruptions, pyroclastic activity, and ash columns reaching over 5 km.



ABOUT INDONESIA:

- Archipelagic country in Southeast Asia; lies between the Indian Ocean and the Pacific Ocean.
- **Capital:** Jakarta (on the island of Java).
- Indonesia is relocating its capital from Jakarta to a new city called **Nusantara**.



- **Borders:** Shares land borders with **Malaysia, Papua New Guinea, and Timor-Leste**.
- **Geological Features:**
 - **Islands:** Over 17,000 islands – major ones include Sumatra, Java, Borneo (Kalimantan), Sulawesi, New Guinea (Papua).
 - **Mountains/Volcanoes:** Over 100 active volcanoes including Merapi, Agung, Sinabung, and Krakatoa; part of the Pacific Ring of Fire.
- **Rivers:**
 - **Longest:** Kapuas (1,140 km) in Kalimantan.
 - **Others:** Barito, Mahakam, Mamberamo.
 - **Tectonic Setting:** Junction of Indo-Australian, Eurasian, and Pacific plates—making it one of the most seismically active regions globally.

GOLDEN TEMPLE

News: The Indian Army has denied media reports about deploying air defence guns at the Golden Temple during Operation Sindoor.



WHAT IS THE GOLDEN TEMPLE?

- The Golden Temple, or Sri Darbar Sahib, is the holiest Sikh shrine located in Amritsar, Punjab. It represents Sikhism's core values of equality, humility, and service.
- Foundation laid in 1577 CE by Guru Ram Das Ji, the fourth Sikh Guru.
- Constructed by Guru Arjan Dev Ji, the fifth Guru, completed in 1604.
- Land bought from local landlords (zamindars).
- Foundation Laid by Hazrat Mian Mir, a Muslim saint from Lahore, showing interfaith harmony.

KEY PERSONALITIES INVOLVED:

- **Guru Arjan Dev Ji:** Architect and visionary of the central Sikh shrine.
- **Baba Budha Ji:** First appointed granthi (reader of Guru Granth Sahib).
- **Maharaja Ranjit Singh:** Beautified the temple with golden plating in the 19th century.

ARCHITECTURAL FEATURES:

- Built on a lower level to symbolize humility; has four entrances for universal access.
- Constructed on a 67 ft square platform in the Amrit Sarovar (holy pool).
- Features gold-covered domes and marble architecture with inlay work.
- Fluted, lotus-shaped with a “kalash” and canopy on top.
- Langar (Community Kitchen) serves free meals to over 1 lakh people daily, upholding Sikh values of equality.



HISTORICAL SIGNIFICANCE:

- Repeatedly attacked during Mughal and Afghan invasions in the 18th century.
- Operation Blue Star (1984): Military action to remove militants caused major damage and public unrest.

MIZORAM DECLARED INDIA'S FIRST FULLY LITERATE STATE

News: Mizoram has been declared India's first fully literate state, marking a historic milestone in the state's educational journey.



ABOUT LITERACY

- As per the Office of the Registrar General of India, a literate person is someone aged 7 or above who can read and write with understanding in any language.
- The Department of School Education and Literacy has introduced a **refined definition of literacy** aligned with **NEP 2020** and **SDG 4.6 goals**.
 - Literacy is now defined as the ability to read, write, and compute with comprehension, along with **critical life skills such as digital and financial literacy**. This expanded definition aims to ensure full societal participation and economic progress.
 - A state/UT achieving **95% literacy is considered fully literate**.

S.No.	State/UT	Total Literacy Rate
1	Mizoram	98.20%
2	Lakshadweep	97.30%
3	Nagaland	95.70%
4	Kerala	95.30%
5	Meghalaya	94.20%
6	Tripura	93.70%
6	Chandigarh	93.70%
8	Goa	93.60%
9	Puducherry	92.70%
10	Manipur	92%

PRESENT STATUS

- India's total literacy rate for individuals aged 7 and above, across both rural and urban areas, stands at **80.9% for the period 2023–24**.
 - India's literacy rate has grown from 14% at independence to approximately 80.9% in 2023–24.
- Mizoram has achieved **“full literacy” status**, reaching 98.2%, surpassing the 95% threshold set by the Ministry of Education as per the 2023–24 PLFS survey.
- Earlier, Ladakh became the **first administrative unit to declare full functional literacy under ULLAS** (Understanding of Lifelong Learning for All in Society).
- Andhra Pradesh (72.6%) and Bihar (74.3%) have the lowest literacy rates, per the PLFS 2023–24 MoSPI survey.

ULLAS - Nav Bharat Saaksharta Karyakram

(New India Literacy Programme)

- It is a centrally sponsored scheme (2022–2027) aligned with NEP 2020, aimed at educating adults aged 15+ who missed formal schooling.
- It has five components- Foundational Literacy and Numeracy, Critical Life Skills, Basic Education, Vocational Skills and Continuing Education.
- It aims to make Bharat – Jan Jan Saakshar and is based on the spirit of Kartavya Bodh and is being implemented on volunteerism.



SUDAN

News: The United States has announced sanctions on Sudan after determining the Sudanese government used chemical weapons in 2024 during its civil war with the paramilitary Rapid Support Forces (RSF).



ABOUT SUDAN:

- **Location:** Northeastern Africa, straddling the Sahel and Sahara regions.
- **Capital:** Khartoum, situated at the confluence of the Blue and White Nile rivers.
- **Bordering Nations:** Egypt, Red Sea, Eritrea, Ethiopia, South Sudan, Central African Republic, Chad, and Libya.

CONTEMPORARY CONFLICTS:

- **Civil War (2023–Present):** Conflict between Sudanese Army and RSF, triggering ethnic violence, famine, and displacement of **13 million people**.
- **Sanctions & Human Rights:** Accusations include genocide, use of **chlorine-based chemical weapons**, and systemic **border violence**.

GEOGRAPHICAL FEATURES OF SUDAN:

- **Rivers:** Dominated by the **Nile River system**, especially where the **White Nile** meets the **Blue Nile** at Khartoum.
- **Mountains:** Includes **Marrah Mountains** (west), **Red Sea Hills** (east), and **Nuba Mountains** (south-central).
- **Deserts:** Northern Sudan is largely Sahara Desert with mobile sand dunes (ergs) and bare rocky terrain.
- **Soils & Plains:** Fertile **alluvial plains** near rivers; central Sudan is known for heavy **cracking clays** like those in the **Gezira region**.



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SUEZ CANAL OFFERS 15% DISCOUNT TO CARGO SHIPS

News: In response to the Red Sea security crisis that severely disrupted maritime trade, the Suez Canal Authority (SCA) has announced a 15% discount on transit fees for large container ships from May 15, 2025.

SECURITY CRISIS IN THE RED SEA

- The crisis began in 2023 when **Iran-backed Houthi rebels in Yemen** started targeting commercial ships linked to Israel or its allies, in retaliation to the conflict in Gaza.
- In response, major shipping lines avoided the Red Sea and **rerouted ships via the Cape of Good Hope**, significantly increasing Voyage duration by 10–14 days, Fuel consumption and Freight rates.



ABOUT SUEZ CANAL

- The Suez Canal is a **193-km artificial waterway** that connects the **Mediterranean Sea to the Red Sea**, making it the shortest maritime route between Europe and Asia.
 - It was officially opened to ships in **1869**.

- The Canal **does not have locks** and it is essentially a sea-level waterway.
 - This characteristic allows for a **smoother, more efficient passage of vessels**, thus supporting a high volume of maritime traffic.
- It is one of the busiest waterways in the world through which **12–15%** of global commerce passes.

IMPORTANCE OF SUEZ CANAL

- **Reduced Transit Time:** The Suez Canal reduces the maritime distance between Europe and Asia by approximately **7,000 kilometers**.
- **World trade:** It's a major factor in the world's economy, with roughly **12%** of global trade, **7%** of the world's oil, and **30%** of daily container traffic passing through it.
- **Revenue Generation:** The Suez Canal is one of **Egypt's** primary sources of revenue.



UNITED STATES BIRTHRIGHT CITIZENSHIP

News: The US Supreme Court heard arguments in a case concerning an executive order issued by the US President, denying birthright citizenship to children born in the US to parents who are in the country illegally or temporarily.



WHAT IS BIRTHRIGHT CITIZENSHIP?

- Birthright citizenship is the legal principle that a **person acquires citizenship automatically at birth**, based on the place of birth or the nationality of parents.
 - **Jus soli (right of the soil):** Citizenship is granted to anyone born within the territory of the country, regardless of parental citizenship. It is followed by the United States.
 - **Jus sanguinis (right of blood):** Citizenship is granted based on parental nationality, not place of birth. It is followed by India.

14TH AMENDMENT OF THE US CONSTITUTION

- The 14th Amendment to the US Constitution was ratified in **1868**.

- The Citizenship Clause says, All persons born or naturalized in the United States, and subject to the jurisdiction thereof, are citizens of the United States.
- This has been interpreted to guarantee citizenship to anyone born on US soil, irrespective of parental immigration status.



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CHAGOS ISLANDS

News: India recently welcomed the UK's decision to hand over the sovereignty of Chagos Islands including tropical atoll of Diego Garcia to Mauritius under a historic deal.



ABOUT CHAGOS ARCHIPELAGO

The Chagos Archipelago is located in the **central Indian Ocean**, south of the southern tip of the Indian subcontinent.

KEY ISLANDS :

- Diego Garcia atoll
- Danger Island
- Egmont Islands
- Eagle Islands
- Nelsons Island
- Peros Banhos atoll.

CLIMATE: TROPICAL MARINE CLIMATE

- The islands form a semicircular group open on the eastern side, with **Diego Garcia** being the largest and most southerly island, covering an area of **30 km²**.

- The highest point on the Island is an ocean-side **dune on Diego Garcia**, which rises to an elevation of only **9 meters**.



BACKGROUND OF CHAGOS ISLANDS

- The **archipelago's first inhabitants**, primarily enslaved **people from Madagascar and Mozambique**, were **forcibly brought** to the islands **by French enslavers**, to work on coconut plantations.
- Centuries later, they had unshackled themselves from slavery and **became Chagossians**, an indigenous people with a distinct language and culture.
- **In 1965, the British convinced Mauritian nationalist politicians to give up their claim to the Chagos Islands in exchange for independence.**
- **In 1966, Chagos became the 'British Indian Ocean Territory (BIOT)** and was denied any claim to independence.
- **This led to the removal of the peoples** living there, most of who relocated to Mauritius.
- **The UK made an agreement with the United States to host a military base** in the islands for Indian Ocean defenses.
- **Mauritius, which gained independence from Britain in 1968, has consistently maintained its claim** over the Chagos Islands.

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

What is BIOT?

- BIOT refers to the British Indian Ocean Territory, a British Overseas Territory in the Indian Ocean.
- The main island in the BIOT is Diego Garcia, which has a significant joint UK-US military base.
- The Chagos Archipelago, of which Diego Garcia is a part, was detached from Mauritius in 1965 to form BIOT.



NAGARHOLE TIGER RESERVE

News: Members of 52 Jenu Kuruba tribal families inside the Nagarhole Tiger Reserve (NTR) in Ponnampet taluk of Kodagu district recently put up a board in their haadi (hamlet) claiming land rights under the Forest Rights Act (FRA).



ABOUT NAGARHOLE TIGER RESERVE

- It is situated in the districts of Mysore and Kodagu in **Karnataka**.
- It is located at the **tri-junction area of** the States of **Karnataka, Tamil Nadu, and Kerala**.
- Geographically, it is an “**ecological confluence**” of the **Western and Eastern Ghats**.
- The reserve is named after a small river, ‘**Nagarahole**’ (**literally a snake stream** in Kannada), which meanders within the habitat before **joining the river Kabini**.
- It is **part of the larger Nilgiri Biosphere Reserve**, which is recognized as a **UNESCO World Heritage Site**.

- It is **flanked by the Bandipur Tiger Reserve** on its southeastern side and the **Wayanad Wildlife Sanctuary** of Kerala on the southwest.
- **Rivers:** It is surrounded by the River **Kabini** in its north and River **Moyar** in its south.
- **Vegetation:**
 - The dry eastern limits of the reserve has **dry deciduous forests**.
 - Towards the west, with the increase in rainfall, the vegetation changes to **tropical moist and semi-evergreen forests**.
 - The forests are interspersed with **swampy fallows called 'hadlu'**, which are dominated by grasses and sedges, favoured by wild herbivores.
- **Flora:** It includes **rosewood, Indian kino tree, sandalwood**, Indian laurel, clumping bamboo, giant clumping bamboo, etc.
- **Fauna:**
 - It is a shelter for the **largest population of wild Asian elephants in South Asia**.
 - It comprises other mammals such as **Bengal tiger, gaur, sloth bear**, golden jackal, dhole, four-horned antelope, etc.

WHO ARE THE JENU KURUBAS?

- **Jenu Kuruba** (also spelled **Jenukuruba**) is a **Scheduled Tribe** primarily found in the forests of **Karnataka**, especially in districts like **Mysuru, Kodagu, Chamarajanagar**, and **Hassan**.
- The name '**Jenu**' means '**honey**' and '**Kuruba**' means '**tribe**' or '**shepherd**', so they are called "**honey-gathering tribe**."
- They are believed to be **descendants of ancient forest-dwelling communities**, and traditionally lived in and around the **Western Ghats and Nilgiri Biosphere Reserve**.

- The tribe is classified as a **particularly vulnerable tribal group (PVTG)** by some researchers due to their low literacy and socio-economic status.



TRADITIONAL LIFESTYLE

- Jenu Kurubas have historically depended on **forest produce** for survival – mainly **honey collection, gathering wild fruits, tubers, herbs, and small-scale hunting**.
- They have **deep ecological knowledge** and spiritual beliefs connected to **forests, animals, and nature**.
- Lived in **mud or bamboo huts** called **haadis** within forest areas.
- Practiced **shifting cultivation (slash-and-burn)** in earlier times, but this has largely declined.
- They follow **animistic and nature-worshipping religious practices**, worshipping local deities like **Betta Devaru (hill god)** and **forest spirits**.

US HAS REDUCED ITS WEATHER BALLOONS

News: The US has reduced its weather balloon launches following budget cuts by the administration, causing concerns globally among meteorologists about the impact on weather forecasting accuracy.

WEATHER BALLOONS :

- **Léon Teisserenc de Bort**, a French meteorologist, pioneered weather balloon use in 1896 and discovered the tropopause and stratosphere.
- Weather balloons are **large latex balloons** filled with **helium or hydrogen**, used by meteorologists to study the **upper atmosphere (above 5,000 feet)**.
- Modern weather balloons can rise up to **1,15,000 feet (35 km)** in about 2 hours.

KEY COMPONENTS

- They carry a **radiosonde**, a small **battery-powered radio-transmitter** suspended about **66 feet below**, which **collects and transmits real-time data** on **temperature, pressure, humidity, and wind** to ground stations via **radio signals**.
- **High-tech radiosondes** are **lighter, more energy-efficient**, and use **Global Positioning System (GPS)** for **accurate tracking** and **wind measurement**, though they are **still launched using weather balloons**.

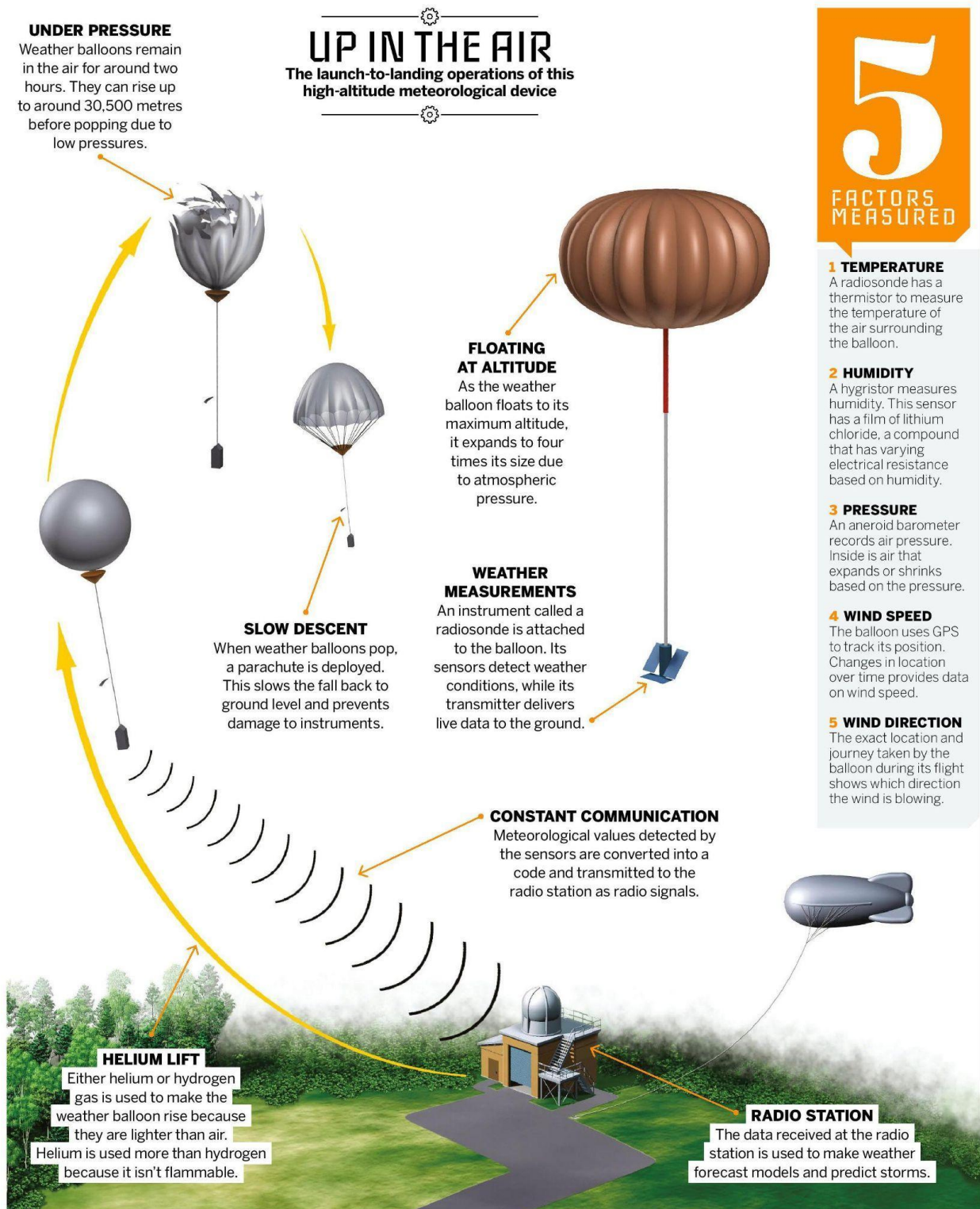
SIGNIFICANCE :

- Helps **fill the gap** between **surface observations** and **satellite data**, offering **detailed vertical profiles of the atmosphere** **essential for accurate weather prediction**.

INDIA' S SCENARIO :

- The **National Balloon Facility (NBF)**, Hyderabad, was established in the 1960s as a collaborative initiative between the **Tata Institute of Fundamental Research (TIFR)** and the **ISRO** to enable **high-altitude scientific balloon launches** for atmospheric and space research.

- The **India Meteorological Department (IMD)** and over **900 global weather stations** launch balloons **twice daily** to maintain forecasting accuracy.



SUGGI MIGRATION

News: Every summer, thousands of families from **Rayalaseema, Andhra Pradesh** undertake seasonal migration, locally known as **Suggi**.



WHAT IS SUGGI MIGRATION?

- **Suggi migration** refers to a **seasonal migration pattern** observed among several tribal communities in **Karnataka**, especially the **Jenu Kuruba, Soliga, and Yerava** tribes.
- The term “**Suggi**” in Kannada means “**harvest**”. The migration occurs during the **agricultural harvest season**, typically from **December to March**.
- It is also called “**Suggi Hunnime**” (harvest full moon festival) in tribal culture, though that refers more to the celebration than the migration.

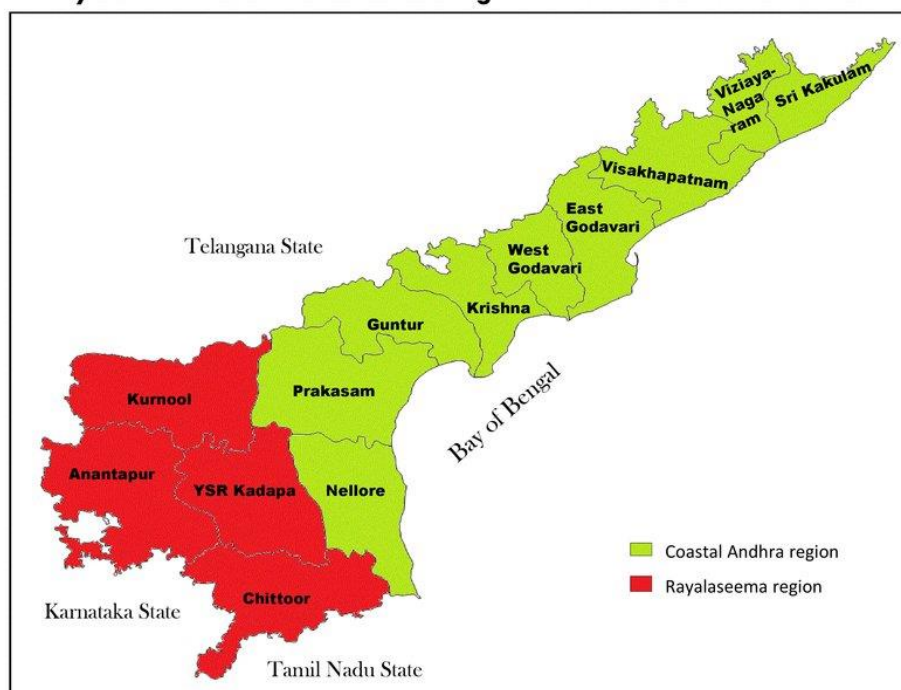
WHAT ARE THE CAUSES FOR SUGGI MIGRATION?

- **Agriculture** in Rayalaseema is **entirely dependent on monsoon rains** (June–September).

- **No secondary crop season** due to lack of water.
- **Tanks and ponds dry up during summer**, leaving entire villages without drinking or irrigation water.
- **Failed borewells and lack of irrigation projects** worsen the crisis.
- Lack of non-farm jobs compels rural workers to migrate.
 - While **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)** offers Rs 307/day in Kurnool, delayed payments make it unreliable.
 - In contrast, migrant work like chilli harvesting pays around Rs 1,000/day, making it a more attractive option.
- **Suggi reflects a rural economy** trapped in **cycles of drought, underdevelopment, and migration**.

Rayalaseema: It is a **semi-arid zone** in southern Andhra Pradesh comprising Anantapur, Chittoor, Kadapa, and Kurnool districts. Rivers like **Penna and its tributary, the Papagni** flow through the region.

Rayalaseema and Coastal Andhra regions of the Andhra Pradesh State



MANDOVI / MAHADAYI RIVER

News: A protest has emerged in Goa following the publication of a scientific paper, "The water budget of the Mahadayi river and its implications for the inter-State dispute".

ABOUT MANDOVI RIVER

- The Mandovi River (also known as Mahadayi or Mhadei) is one of the main West Flowing Rivers of Goa State. Alongside the Zuari River, it is one of the two principal rivers in the state, playing a crucial role in its ecology and economy.
- **Origin:** It rises at Bhimgad in the **Western Ghats of Belgavi district** in **Karnataka state**.
- **River course:** It travels 35 km in Karnataka; 82 km in Goa and 1 km in Maharashtra before joining the Arabian Sea at Panji (North-Goa).
- **Tributaries:** The important tributaries of Mandovi River are Kalasa Nala, Banduri Nala, Surla Nala, Haltar Nala, Singar Nala, Doli Nala, Kotni Nala, Irti Nala, Bail Nadi, Pansheer Nala, Madhuhalla Nala.

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SOME INTERESTING FACTS:

- **Dudhsagar Falls and Vajrapoha Falls:** These prominent waterfalls are located on this river.
- **The Atal Setu (Third Mandovi Bridge),** inaugurated in 2019, is the **largest bridge** in Goa.
- The **Salim Ali Bird Sanctuary** is located on the **island of Chorao** in the Mandovi river.
- **National Waterway-68** is part of Mandovi River.

DISPUTE

- **Issue:** A long-standing interstate dispute between Goa, Karnataka, and Maharashtra over water sharing, escalated by Karnataka's Kalasa-Banduri Nala Project, which aims to divert Mahadayi water to the Malprabha River (a Krishna tributary) for drinking and irrigation in Karnataka.
- **Goa's concern:** Ecological damage to Mhadei Wildlife Sanctuary, depletion of groundwater, threat to navigation in Mandovi estuary.

- **Mahadayi Water Disputes Tribunal (MWDT)** was constituted in 2010 under Inter-State River Water Disputes Act, 1956.
- **The tribunal passed the order in 2018 permitting Karnataka** to divert 110 Mcum of water from the Mhadei basin to the east flowing into Malaprabha basin.

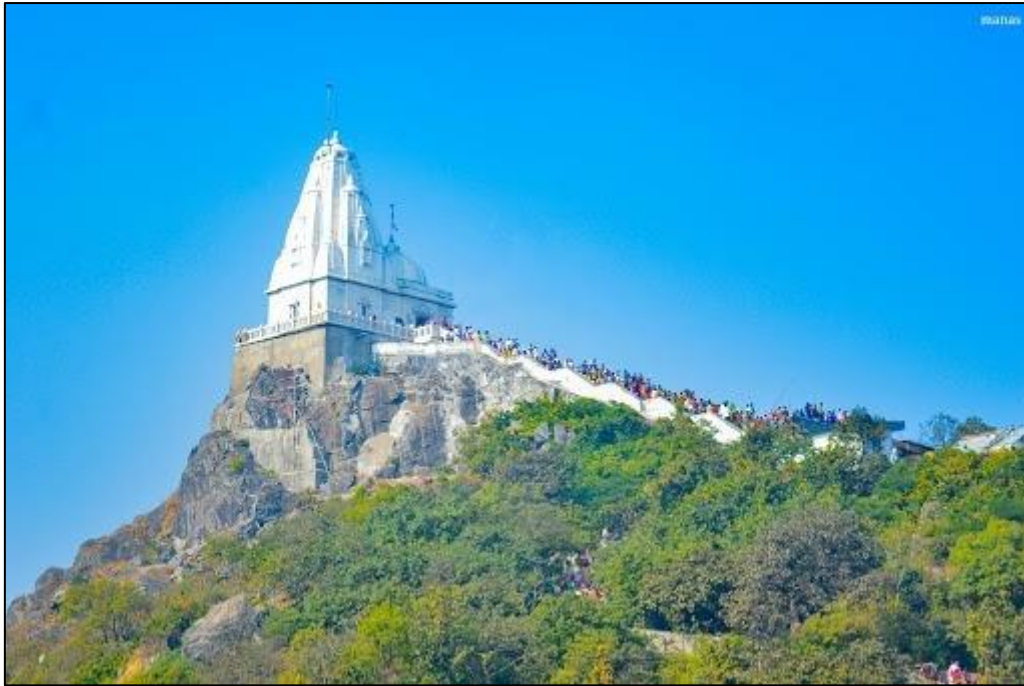
KEY FINDINGS OF THE NEW STUDY:

- Karnataka's approved diversion has limited impact on Goa's overall discharge.
- Kalasa diversion affects northern part of Mhadei Wildlife Sanctuary, not entire Goa.
- Navigation and ecological functions not significantly compromised.
- Solution suggested: Construct check dams/storage inside the sanctuary to minimize ecological impact.

PARASHNATH / MARANG BURU HILL

News: The Jharkhand High Court directed the state government to enforce a pre-existing ban on the consumption and sale of meat, alcohol, and other intoxicants on a hill considered to be sacred by both the Santal Adivasi and Jain communities.

Referred to as Marang Buru by Santals and Parasnath by Jains, the hill in Jharkhand's Giridih district has been the site of a century-old inter-community conflict.



PARASNATH HILL

- It is the highest peak in Jharkhand (1,365 meters). It is named after **Lord Parshvanatha**, the 23rd Jain Tirthankara.
- It is located towards the eastern-end of **Chota Nagpur Plateau**.
- It falls within the **Parasnath Wildlife Sanctuary** and is part of the **Madhuban Forest Area**.
- **Significance in Jainism:**
 - It is known as **Sammed Shikharji**, one of the most sacred pilgrimage sites for Jains.
 - According to Jain beliefs, **20 out of 24 Tirthankaras** (spiritual teachers) attained Moksha (liberation) here.
- **Marang Baru:**
 - The **Santhal tribe** considers the hill as **Marang Buru**, their Supreme Deity and Chief God.
 - The site is an important place of worship for tribals, where they perform traditional rituals and celebrations during the **Sohrai festival**.

DISPUTES REGARDING THE LOCATION

- **Religious conflict** between Jain community and Santhal tribals on developing location as pilgrimage site.
- **Opposition to Tourism** and commercialisation of the location, as the Jain community consider it as sacred.
- **Declaration of eco-sensitive zones** by the government neglects the traditional rights of the Santhal tribal communities.

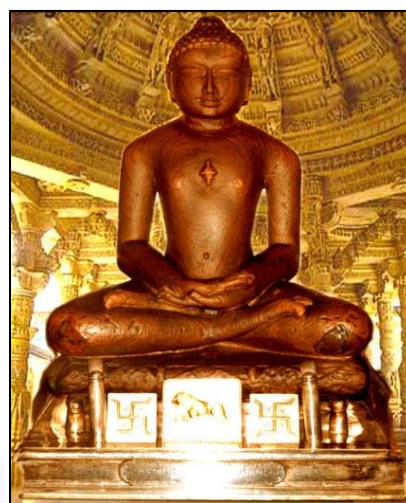
ABOUT JAINISM

ORIGIN & FOUNDERS:

Rishabhanatha (1st Tirthankara) and Mahavira (24th Tirthankara, 540-468 BCE).

CORE BELIEFS:

- **Triratnas:** Right Faith, Right Knowledge, Right Conduct.
- **Five Vows:** Ahimsa, Satya, Asteya, Brahmacharya, Aparigraha.
- **Anekantavada:** Multiple perspectives of truth.



SECTS:

- **Digambara:** No clothes (skin clad).
- **Shwetambara:** Wear white clothes.

JAIN LITERATURE & ARCHITECTURE:



- **Texts:** Kalpasutra, Tattvartha Sutra.
- **Temples:** Dilwara (Rajasthan), Gomateshwara (Karnataka).
- **Patronage:** Chandragupta Maurya, Kharavela, Rashtrakutas, Chalukyas

DIFFERENCES AND SIMILARITIES BETWEEN BUDDHISM & JAINISM:

Aspect	Jainism (Keywords)	Buddhism (Keywords)	Similarity (Keywords)
Founder	Mahavira, 24th Tirthankara	Gautama Buddha, Siddhartha	6th Century BCE, Kshatriya, Reformers
Soul	Jiva , Eternal, Individual Soul	Anatta , No Permanent Soul	Rebirth, Liberation from Samsara
Karma	Material karma , sticks to soul	Mental karma , volitional	Karma affects rebirth, moral causation
Goal	Moksha , soul purification	Nirvana , end of suffering	Liberation, Freedom from rebirth
Path	Three Jewels – Samyak Darshan, Jnana, Charitra	Eightfold Path , Middle Way	Ethical conduct, Right knowledge, Meditation
Ahimsa	Absolute non-violence , strict	Moderate non-violence	Ahimsa, Compassion
Asceticism	Severe austerities , fasting	Moderate asceticism , balance	Renunciation, Monastic discipline

God Concept	No Creator , worship of Tirthankaras	No Creator , no soul worship	Non-theistic, Focus on self-effort
Rituals	Temple worship , symbolic rituals	Minimal rituals , focus on meditation	Reject Vedic rituals, oppose caste
Scriptures	Agamas , Digambara & Svetambara texts	Tripitaka , Pali Canon	Monastic code, Ethical teachings
Spread	Mainly India , regional	Asia-wide , global influence	Indian origin, Philosophical traditions

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SPECIES IN NEWS

CLOWNFISH

News: A study found that adult clownfish can shrink and regrow in response to heat stress.

Shrinking helped lower death risk by 78%, while fish that didn't shrink had the highest mortality.

CLOWNFISH (AMPHIPRION PERCULA)

- There are at **least 30 known species** of clownfish, most of which live in the shallow waters of the **Indian Ocean, the Red Sea, and the western Pacific**.
- The clownfish can be many different colours, depending on its species, including yellow, orange, red, and black.
- The IUCN Red List of threatened species classifies them as **Least Concern**.



INDIA'S LION POPULATION RISEN BY 32% SINCE 2020

News: As per the 16th Lion Population Estimation, India has reported a 32% increase in its lion population between 2020 and 2025.



KEY FINDINGS

- **Population Increase:** The total number of Asiatic lions has risen from 674 in 2020 to 891 in 2025.
- **Demographic Composition:** Males: 196, Females: 330 (up from 260 in 2020; 26.92% increase), Sub-adults: 140 and Cubs: 225.
- **Habitat Distribution:**
 - **55.78%** of lions are located in forested areas.
 - **44.22%** reside in non-forested landscapes, reflecting the growing range and adaptability of the species.
- **Frequency of Census:** Conducted every five years to monitor population trends and guide conservation strategies.

ASIATIC LION (*PANTHERA LEO PERSICA*)

- It is one of the **five big cat species** found in India.
- **Physical Characteristics:** Asiatic lions are slightly **smaller than African lions**.
 - Males have **less developed manes**, leaving their ears visible.
 - Prominent **longitudinal fold of skin** along the belly (a distinguishing feature from African lions).
- **Distribution:** In India, concentrated in the state of Gujarat in and around the Gir Forest mainly in;
 - Gir National Park and Wildlife Sanctuary
 - Paniya Wildlife Sanctuary
 - Mityala Wildlife Sanctuary
 - Barda Wildlife Sanctuary
- **Conservation Status:**
 - **IUCN Red List status:** Endangered
 - **CITES:** Appendix I
 - **Wildlife Protection Act, 1972:** Schedule I



Difference between African lion and Asiatic lion

African lion (<i>Panthera leo melanochaita</i>)	Asiatic lion (<i>Panthera leo persica</i>)
Bigger than the Asiatic lion.	Slightly smaller than the African lion.
Males have relatively short, sparse and darker manes .	Males have a fuller mane .
Males do not live with the females of their pride unless they mate or have a large kill.	Males live with the females of their pride.
Distribution: Sub-Saharan Africa and West Africa.	Distribution: Found only in Gir National Park , Gujarat, India, and its surrounding areas.
Habitat: Forest, savanna, shrubland, grassland, and desert	Habitat: Dry deciduous forest
Conservation Status: IUCN Red List: Vulnerable CITES: Appendix II CMS: Appendix II	Conservation Status: IUCN Red List: Endangered CITES: Appendix I Wildlife Protection Act, 1972: Schedule I CMS: Appendix II



WORLD TURTLE DAY

News: World Turtle Day is observed annually on **23rd May** to highlight the importance of conserving **turtles** and **tortoises**.

The day was **established in 2000** to **raise awareness and promote conservation** of **turtles and tortoises** globally.



WHAT ARE THE KEY FACTS RELATED TO TURTLES?

- **Turtles (Order Testudines)** are **reptiles** distinguished by a **cartilaginous shell** developed from their ribs, forming a **protective shield**.
 - Unlike other animals with shells, **turtles cannot shed or exit their shell**, as it is an **integral part of their skeleton**.
- Turtles can live in **both freshwater** and **marine (sea)** environments.



KEY FEATURES

- Turtles are **cold-blooded (ectothermic)** species, i.e they can **regulate their body temperature by moving between warmer and cooler environments**.
- Like other ectotherms such as **insects, fish, and amphibians**, they exhibit **slow metabolism** and can **survive extended periods without food or water**.

KEY SPECIES :

- **Sea Turtles:** Loggerhead Turtle, **Green Turtle**, Hawksbill Turtle, Leatherback Turtle, **Olive Ridley Turtle**, and Flatback Turtle.
- **Freshwater Turtles:** Snapping Turtle, Painted Turtle, Red-eared slider Turtle, Spiny Softshell Turtle and Musk Turtle etc.

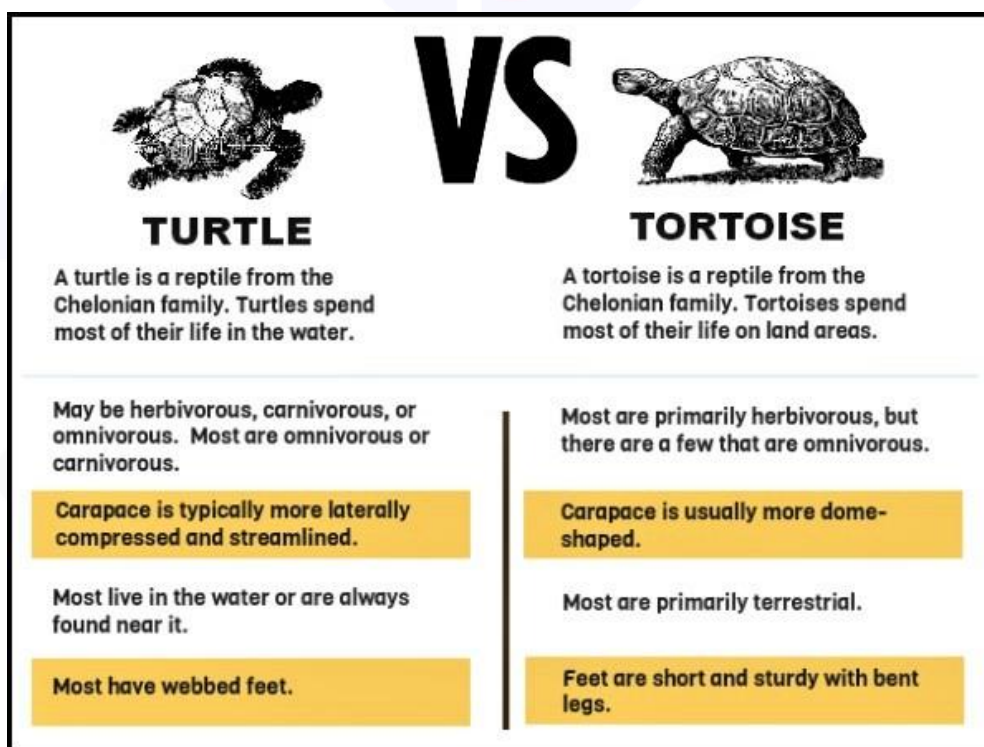
How Turtles are different From Tortoise?

- **Tortoises** differ from other turtles primarily by being **strictly terrestrial**, while **many turtle species are partially aquatic**.

- Although **all tortoises are turtles**, not all turtles are tortoises.
- Both are generally shy, solitary animals that lay eggs on land by burying them in nests.

WHAT IS THE STATUS OF TURTLE SPECIES IN INDIA?

- India is home to **30 species of freshwater turtles**, 26 of which are listed under **Schedule I** of the **Wildlife Protection Act, 1972**.
- Assam, West Bengal & Uttar Pradesh have high **turtle diversity**.
- India also hosts **5 sea turtle species**: **Olive Ridley, Green, Loggerhead, Hawksbill, and Leatherback**.
- All of which are protected under **Schedule I** of the **Wildlife Protection Act, 1972**.



WHAT IS THE PROTECTION STATUS (AS PER THE IUCN RED LIST)?

- **Olive Ridley, Loggerhead, and Leatherback**: Vulnerable
- **Green Turtle**: Endangered

- **Hawksbill Turtle:** Critically Endangered

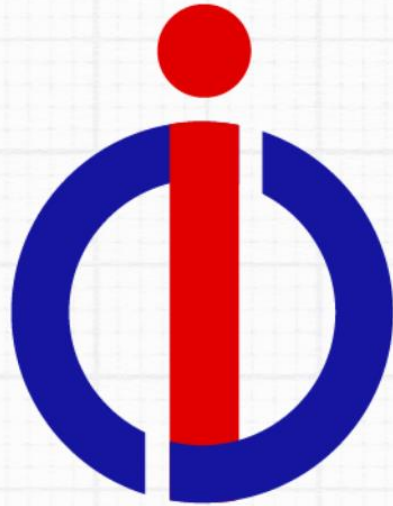
THREATS :

- Turtles face severe threats from **habitat destruction, climate change, plastic pollution**, and **illegal wildlife trade** for meat, pets, and traditional medicine, with Uttar Pradesh and West Bengal being major trafficking hotspots.

WHAT ARE THE CONSERVATION EFFORTS?

- UP leads in conserving turtles by establishing **turtle conservation centres** in **Kukrail (Lucknow)**, **Sarnath (Varanasi)**, **Chambal (Etawah)**, and a **30 km Turtle Sanctuary** in **Prayagraj**.
- The Forest Department **actively curbs illegal trade**, especially in **Pilibhit**, a major trafficking hotspot identified in **WCCB's Operation Kurma**.
- To enhance efforts, a **Turtle Conservation and Research Centre** is being set up in **Pilibhit Tiger Reserve** along **River Mala**, funded by **CAMPA**.





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