NEXT IAS

THE CRUX

September Issue; 2025

Chief Editor

B. Singh (Ex. IES)

CMD, NEXT IAS & MADE EASY Group

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Compilation of UPSC relevant news from 1st September to 30th September 2025

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SCO SUMMIT, 2025

The Shanghai Cooperation Organisation (SCO) held its annual Heads of State Summit in Tianjin, China, in 2025.

Key Highlights

- **Terrorism:** The declaration strongly condemned all terror attacks, including the **Pahalgam incident in India** and those in Pakistan, and urged countries to stop **cross-border terrorism.**
- **Global Order & Trade:** It rejected **U.S. tariffs and sanctions,** with President Xi criticising **"Cold War thinking",** and proposed a **Global Governance Initiative** to ensure a fairer and more inclusive world order.
- **Membership: Laos joined** as a new partner, and the **observer and dialogue partner categories were merged,** bringing the SCO's total strength to **27 countries** (10 full members and 17 partners).
- **Economy:** The declaration announced plans for an **SCO Development Bank,** while China committed a **¥2 billion grant in 2025** and **¥10 billion in loans over the next three years** to support development.
- **Geopolitics:** On the **Gaza war,** it condemned civilian deaths and opposed **Israel–U.S. strikes on Iran.**
  - On the **Afghanistan,** it called for an **inclusive government.**
  - On the **Belt and Road Initiative (BRI),** all members expressed support except **India,** which withheld endorsement.
- **China's Push for SCO Institutional Expansion:** SCO members are permitted to use BeiDou satellite system (China's GPS alternative).
  - China pledged $1.4 billion in loans over 3 years to SCO members.
  - Proposed the creation of an SCO Development Bank to fund infrastructure and development projects.
- **SCO Plus Format:** China chaired the SCO+ Summit, which included member states, observers, dialogue partners, honored guests, and heads of major international organisations, signaling an expanded role for SCO in global governance.
- **UN Reform:** Called for adapting the UN system to modern realities, particularly by expanding the representation of developing countries in governing bodies.

SCO

Shanghai Cooperation Organisation

An Eurasian intergovernmental organisation and economic and security alliance

1996 Shanghai Five

Kazakhstan, Tajikistan, Kyrgyzstan, Russia, China

2001 Shanghai Five → SCO

Uzbekistan was included.

Renamed as Shanghai Cooperation Organisation (SCO)

2017 First Round of Expansion

India and Pakistan joined.

2022 SCO Summit, Uzbekistan

Varanasi was selected as the SCO region's 1st "Tourism and Cultural Capital" for 2022–23.

2023 SCO Summit, India

India hosted the summit for the 1st time. It was held virtually.

Iran was included as SCO's 9th member.

SCO members agreed to explore using "national currencies" for payments within the grouping.

Governance

Main Focus: Regional Development | Security Issues: Regional Terrorism, Ethnic Separatism, Religious Extremism

Governed by: Heads of State Council (HSC), SCO's supreme decision-making body (meets once a year).

Official Languages: Russian, Chinese

Regional Anti-Terrorist Structure (RATS)

A Permanent organ of the SCO

Headquarters: **Tashkent,** Uzbekistan

Serves to promote cooperation of member states against the 3 evils:

- Regional Terrorism
- Ethnic Separatism
- Religious Extremism

Significance of SCO

- **Expanding Global Influence:** The SCO has transformed from a Central Asian forum into a global platform. With members representing **23% of global GDP** and **42% of the world's population,** it holds the potential to reshape multilateralism and global governance.
- **Alternative to Western Institutions:** It offers a **non-Western model of cooperation,** giving countries a platform outside Western-led structures.
  - The interest of **Turkey, a NATO member,** in full membership shows the SCO's growing importance.
- **Regional Stability and Security:** The SCO plays a key role in addressing instability in Afghanistan after NATO's withdrawal. Its **Afghanistan Contact Group (ACG)** helps maintain dialogue and regional cooperation.
- **Energy Cooperation:** With major energy producers (Russia, Kazakhstan, Iran) and consumers (China, India), the SCO serves as a platform to enhance **energy security** and explore joint projects in oil, gas, and renewables.
- **Cultural and People-to-People Ties:** The SCO also promotes **educational, cultural, and youth exchanges,** strengthening regional identity and soft power cooperation beyond just politics and security.
- **Voice for the Global South:** By challenging unilateralism and sanctions, the SCO increasingly positions itself as a **representative forum for emerging economies,** advocating reforms in global institutions.
- **Counter-Terrorism Cooperation:** Through its **Regional Anti-Terrorist Structure (RATS),** the SCO facilitates intelligence-sharing and coordination against terrorism, extremism, and separatism.
- **Strategic Balance in Global Politics:** For **China,** the SCO is a vehicle to project leadership and present itself as a **voice of the Global South.** For **Russia,** it is a forum to counter Western narratives and push multipolarity.
- **Boosting Connectivity in Eurasia:** The SCO fosters infrastructure and trade corridors in Central Asia, supporting projects like the **INSTC** and **Chabahar Port,** which reduce landlocked isolation and promote economic integration.

Challenges Faced by SCO:

- **Shifting Away from Asia-Centric Agenda:** The inclusion of new members like Belarus has enhanced SCO's global visibility but diluted its **Central Asia–centric focus,** with overexpansion risking fragmentation and pushing members towards smaller sub-groupings for effective cooperation.
- **Tool for Chinese Geopolitical Narratives:** China projects SCO's growing membership as **evidence of global endorsement** for its worldview. It leverages expansion to push initiatives like the **Belt and Road Initiative (BRI),** thereby moulding SCO into a China-led framework, sidelining others' concerns.
- **Diverse and Conflicting Interests:**
  - Consensus remains difficult due to stark differences among members.
  - For *instance*, **India consistently calls out Pakistan as a hub of terrorism,** while China shields Islamabad diplomatically, creating deadlock on security cooperation.
- **External Perceptions:**
  - Western powers view the SCO as an **anti-West bloc,** which limits its ability to engage with broader international organisations.
  - This perception reduces its scope for genuine multilateral collaboration.

Relevance of SCO for India

- **Countering Terrorism:** The SCO provides India a platform to raise its concerns about **cross-border terrorism** and push for stronger collective action. It helps India expose Pakistan's role in promoting terrorism in the region.
- **Access to Central Asia:** SCO membership connects India more closely with **Central Asian countries,** a region important for trade, energy supplies, and connectivity projects like INSTC and Chabahar Port.
- **Balancing China and Russia:** Through SCO, India can **engage with both China and Russia** in a multilateral setting. This helps India maintain its strategic autonomy and balance China's growing influence in Eurasia.
- **Strategic Presence in Eurasia:** Being part of SCO ensures India is **not left out of regional decision-making** on issues like Afghanistan, security, and economic cooperation. It strengthens India's presence in an area traditionally influenced by China and Russia.
- **Shaping Regional Agenda:** India can use the SCO to promote its own ideas—such as **sustainable development, digital innovation, and inclusive connectivity**—instead of letting the agenda be dominated only by Chinese projects like the BRI.

Way Forward:

- **Balanced Expansion:** The SCO should limit enlargement to maintain its **Central Asia–centric focus** while ensuring new members add strategic value rather than dilute purpose.
- **Strengthen Institutional Capacity:** Build mechanisms for **implementation and monitoring** so that decisions go beyond declarations and result in concrete outcomes.
- **Respect for Diverse Interests:** Promote **issue-based cooperation** (terrorism, energy, connectivity) where consensus is possible, instead of forcing uniformity across all domains.
- **Promote Inclusive Connectivity:** Encourage projects like **INSTC and Chabahar** that respect all members' sensitivities, providing alternatives to BRI and reducing overdependence on any one country.

VISAKHAPATNAM DECLARATION ON E-GOVERNANCE

The declaration was adopted at the 28th National Conference on e-Governance in Visakhapatnam, emphasizes inclusive, transparent, and citizen-centric digital governance.

About:

- **Co-hosted By:** Department of Administrative Reforms and Public Grievances (DARPG), the Ministry of Electronics and IT (MeitY), and the Government of Andhra Pradesh.
- **Theme:** "Viksit Bharat: Civil Service and Digital Transformation" with a vision of "Minimum Government, Maximum Governance."

Key highlights of Visakhapatnam Declaration

- **National Vision:** Promote **inclusive, transparent, and citizen-focused governance** in line with the principle of **"Minimum Government, Maximum Governance."**
- **Technology-Driven Governance:** Encourage the use of **AI, Machine Learning, Blockchain, GIS, IoT, and Data Analytics** to deliver real-time, multilingual, and sector-specific services.
  - ***Example:*** Digital India BHASHINI, Digi Yatra, and NADRES V2 platforms.
- **Replication of Successful Models:** Nationwide adoption of proven digital models such as:
  - **SAMPADA 2.0 (Madhya Pradesh)** – agricultural value chain integration.
  - **eKhata (Bengaluru)** – digital property records.
  - **Rohini Gram Panchayat (Maharashtra)** – local governance digitalization.
  - **Drone Analytics Monitoring System (NHAI)** – real-time project tracking.
- **Grassroots and Inclusive Development:** Extend digital services to remote areas like the North-East and Ladakh under the NeSDA framework.
  - Expand successful Panchayat digital models and launch digital literacy programs for women and youth.
- **Cybersecurity and Resilience:** Strengthen digital safety using Zero-Trust architecture, Post-quantum encryption, and AI-based monitoring, especially in defence, transport, and citizen service platforms.
- **Agriculture and Sustainability:** Promote the **National Agri Stack** to enhance farmers' access to **credit, advisories, and markets**, supporting sustainable agriculture.
- **Collaboration and Regional Innovation:** Encourage **public-private partnerships** for scalable digital solutions.
  - Develop **regional innovation hubs**, with **Visakhapatnam** proposed as an emerging **IT and innovation centre**.

e-Governance

- **e-Governance in India** means the use of Information and Communication Technology (ICT) by the government to deliver services, exchange information, and interact with citizens.

Important E-Governance Models (as per 2nd Administrative Reforms Commission)

Model	Description	Examples
Government to Government (G2G)	Strengthens coordination and data sharing between different departments and levels of government.	➲ **Khajane Project (Karnataka):** Computerization of state treasury operations. ➲ **SmartGov (Andhra Pradesh):** Workflow automation and knowledge management in the state secretariat.
Government to Citizen (G2C)	Provides quick, convenient, and transparent public services directly to citizens through digital platforms.	➲ **DigiLocker, CoWIN App, UPI:** secure documents, vaccination services, digital payments. ➲ **e-Mitra (Rajasthan):** One-stop center for multiple citizen services. ➲ **Gyandoot (Madhya Pradesh):** Rural e-service network connecting panchayats.
Government to Business (G2B)	Simplifies interaction between government and businesses, promoting ease of doing business.	➲ **MCA21 (Ministry of Corporate Affairs):** Online company registration, compliance filing, and corporate data access.
Government to Employee (G2E)	Focuses on capacity building, training, and efficient management of government employees.	➲ **iGOT Platform:** Online learning and training for civil servants to strengthen digital and governance skills.

Benefits of the E-Governance

- **Improved Service Delivery:** India has successfully digitized public services.
  - Through platforms like **DigiLocker**, citizens can securely access and store important government documents such as driving licences, educational certificates etc.
- **Enhanced Industry–Government Interaction:** Digital platforms simplify regulatory procedures, improving **communication and coordination** between industries, businesses, and the government.
- **De-bureaucratization:** E-governance reduces dependence on middlemen and bureaucracy, directly connecting citizens with government services, thereby improving accessibility.
- **Reduction in Corruption:** Online monitoring and direct digital transactions curb corruption. Linking **Aadhaar with MGNREGA** wage payments has eliminated **fake beneficiaries**, ensuring funds reach genuine workers.
- **Flattening of Hierarchies:** ICT enables participation at multiple administrative levels, reducing rigid hierarchies and promoting **collaborative decision-making**.
- **Plugging Leakages:** The **Direct Benefit Transfer (DBT)** system has helped the government save nearly **$27 billion** by removing intermediaries and ensuring direct payments to beneficiaries.
- **Administrative Automation:** Digitization has made administration faster and more transparent. For example, **Saharsa** became **Bihar's first paperless (e-office) district**, symbolizing the move towards "zero red tape" governance.

Key Challenges to e-Governance

- **Trust Deficit:** Frequent **data breaches and misuse of information** have created mistrust among citizens. Many government departments still struggle to maintain **secure and updated databases**, undermining confidence in digital platforms.
- **Digital Divide:** The **India Inequality Report 2022 (Oxfam)** highlights a sharp digital gap — the richest 60% of Indians are **four times more likely** to use digital payment systems than the poorest 40%.
  - Uneven access to technology has resulted in **low digital inclusion**, especially in rural and remote areas.
- **Accessibility Gap:** Internet access remains limited , only **17% of rural households** have access compared to **44% in urban areas**. Weak infrastructure in remote regions restricts the reach of e-governance services.
- **Digital Literacy and Awareness:** Only **38% of Indian households** are digitally literate. Lack of awareness, illiteracy, and limited technical knowledge prevent citizens especially in rural areas from effectively using online services.
- **Language Barrier:** With merely **10% of the population fluent in English**, a majority of citizens find it difficult to interact with e-services available only in English. Expanding services in **regional languages** is crucial for inclusivity.
- **High Implementation and Maintenance Cost:** E-Governance initiatives consume around **3% of India's GDP**, and their maintenance involves **continuous software upgrades, cybersecurity, and infrastructure costs**.
  - Ensuring cost efficiency and scalability remains a major challenge.
- **Privacy and Security Risks:** Cyberattacks like the **CoWIN data breach** exposed sensitive details including **Aadhaar, PAN, and passport information**, revealing vulnerabilities in government databases.
  - Although **cyber frauds decreased by 17.5% in 2022**, the **total financial loss (~₹128 crore)** remains high.
- **Interoperability Issues:** Government departments and ministries often work in **silos**, limiting data sharing and coordination.
  - The absence of standardized data formats and shared frameworks delays integration and decision-making.
- **Institutional Challenges:** Poor coordination among ministries, overlapping jurisdictions, and unclear accountability mechanisms slow down project implementation and service delivery.

Steps Taken to Improve E-Governance in India

- **National e-Governance Plan (NeGP):** Launched in 2006 to deliver government services digitally through Mission Mode Projects, ensuring citizen access via a unified digital interface.
- **Digital India Programme:** Initiated in 2015 to transform India into a digitally empowered society and knowledge economy through initiatives like e-Kranti, BharatNet, DigiLocker, and MyGov.
- **BharatNet Project:** The world's largest rural broadband initiative connecting over 2.5 lakh Gram Panchayats with high-speed fiber for last-mile digital connectivity and rural e-governance.
- **Direct Benefit Transfer (DBT) System:** Ensures transparent and efficient delivery of subsidies and welfare payments directly to beneficiaries' Aadhaar-linked bank accounts.
- **UMANG and MyGov Platforms:** UMANG integrates 1,000+ government services into one app, while MyGov enables citizen participation through crowdsourced ideas and consultations.
- **E-Courts and E-Office Initiatives:** E-Courts digitize judicial processes, and E-Office enables paperless administration with online file tracking and approvals for greater transparency.
- **National Centre for Good Governance (NCGG) & iGOT Karmayogi:** NCGG promotes governance best practices, and iGOT Karmayogi offers continuous digital learning for civil servants.
- **Cybersecurity and Data Protection Measures:** The National Cybersecurity Strategy and Digital Personal Data Protection Act, 2023 safeguard citizen data and secure e-governance platforms.

THE GENDER SNAPSHOT, 2025

The UN Gender Snapshot 2025 warns that over 351 million women and girls may remain in extreme poverty by 2030 without urgent action.

Key Findings:

- **Freedom from poverty:** In 2025, women face lower jobs, higher poverty, lack of protection, and heavy unpaid care. Breaking barriers with equality, social security, health, and education is crucial.
  - 52 million additional women and girls could leave extreme poverty by 2030
- **Zero violence:** Violence against women affects 12.5% globally, with higher rates in conflict-hit nations. Despite laws and plans, weak enforcement limits progress. Strong action, survivor support, and women's economic empowerment are vital for change by 2030.
- **Full and equal decision-making power:** Women hold only 27% of parliamentary seats and few top roles, blocked by a glass ceiling; quotas, dual leadership, and reforms are needed for gender parity.
- **Peace and security:**Women and children suffer most in conflicts, remain underrepresented in peace processes, and need better protection, participation, and funding.
  - Only 55% of 113 national action plans ensure women's participation in peace processes.
- **Climate justice:** Climate change hits women hardest; only 39% of countries include gender in climate policies. Inclusive decision-making and women's leadership are key.
  - By 2050, 158M women may face extreme poverty due to climate change.
  - Only 39% of countries include women in national climate policymaking through coordination mechanisms.
  - Under 1% of climate and gender aid went to women's rights groups in 2022-23, and cuts threaten this small share.

India-Specific Dimensions

- **Female Labour Force Participation Rate (FLFPR):** Around 37% in 2023 (ILO), among the lowest in South Asia.
- **Political Representation:** Women hold about **15% seats** in Lok Sabha, though the Women's Reservation Act 2023 promises 33%.
- **Education:** Gender parity achieved in school enrolment, but dropout rates for girls rise at secondary levels due to early marriage, safety, and social norms.
- **Digital Divide:** As per NFHS-5, only 33% of women use the internet, compared to 57% of men.
- The National Crime Records Bureau (NCRB) reported approximately 4.48 lakh cases of crimes against women in 2023, a slight increase from the previous year.

Gender Equality Under the Constitution:

- **Preamble:** Guarantees social, economic, and political justice and equality of status and opportunity, forming the foundation for gender justice.
- **Article 14:** Ensures equality before the law, emphasizing gender equality in all state actions.
- **Article 15(1):** Prohibits discrimination solely on the basis of sex.
- **Article 15(3):** Allows affirmative action for women and children.
- **Article 16:** Ensures equal opportunities in public employment, irrespective of gender.
- **Article 23:** Prohibited human trafficking and forced labor, which disproportionately affect women and girls.
- **Article 39(a) & (d):** Guarantees equal pay for equal work and equal means of livelihood for both genders.
- **Article 42:** Advocates just work conditions and maternity benefits.
- **Article 51A(e & f):** Fundamental Duties,Calls for renouncing practices derogatory to women's dignity and promoting respect for women.
- **73rd & 74th Constitutional Amendments (1992):** Provide 33% reservation of seats for women in local bodies, ensuring their participation in grassroots governance.

Global Efforts for Gender Equality:

- **United Nations Sustainable Development Goal 5:** Aims to achieve gender equality and empower all women and girls.
- **Beijing Declaration+30 A:**
  - **Digital Inclusion:** Bridge the gender digital divide.
  - **Economic Security:** Expand social protection, healthcare, education, and care economy.
  - **Safety & Justice:** End gender-based violence with robust laws and support systems.
  - **Leadership & Governance:** Strengthen women's role in politics and decision-making.
  - **Peace & Security:** Fully finance Women, Peace & Security agenda, ensure women's participation.
  - **Climate Justice:** Mainstream gender in climate policies and resource rights.
- **Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW):** Encourages policy reforms and legal protection against gender discrimination.

India's Initiative Towards Gender Equality

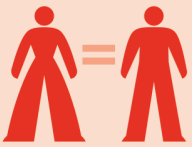
- **The Women in Science and Engineering-KIRAN (WISE KIRAN) program** has supported nearly 1,962 women scientists from 2018 to 2023.
- **Kishori Shakti Yojna:** Improves nutrition, health, and self-development of girls aged 11–18 years.

- **Pradhan Mantri Matru Vandhana Yojna:** Cash incentive of Rs. 5000 for Pregnant Women & Lactating Mothers for the first living child, paid in three installments on fulfilling conditions.
- **State Resource Centre for Women:** Provides technical assistance to implement women-centric programs, laws, and schemes at the state level.
- **Maternity Benefit (Amendment) Act, 2017:** Provides for 26 weeks of paid maternity leave for women working in the private sector and government.
- **Nari Shakti Vandan Adhiniyam, 2023,** seeks to reserve one-third of the total number of seats for women in Lok Sabha, State Legislative Assemblies and Delhi Assembly.

UN Women

- UN Women is the United Nations entity dedicated to gender equality and the empowerment of women.
- A global champion for women and girls, UN Women was **established in 2010** to accelerate progress on meeting their needs worldwide.
- **Headquarters:** New York.
- ***UN Women and United Nations Department of Economic and Social Affairs, (UN DESA):*** UNDESA is a United Nations body that supports the UN's development efforts, focusing on the 2030 Agenda for Sustainable Development and the **17 SDGs.**

AT THE BEIJING+30 JUNCTURE, PROGRESS ON GENDER EQUALITY AND WOMEN'S EMPOWERMENT FALLS SHORT



Globally,
99 positive legal reforms
from 2019–2024 removed discriminatory laws and **established gender equality frameworks**.

Yet data from 131 countries in 2024 reveal substantial challenges. No country achieves a perfect score across four areas measured:

- **legal frameworks and public life**
- **violence against women**
- **employment and economic benefits**
- **marriage and family**

Over half the countries (51%) have gaps in each area.

In **61 countries**
(47%), at least one restriction prevents women from performing the same jobs as men.

Only **38 countries**
(29%) establish 18 years as the minimum marriage age without exceptions.

Just **63 countries**
(48%) have rape laws based on the lack of consent.

Worldwide, over
1 in 8 women
aged 15–49 has been **subjected to physical and/or sexual violence by a current or former intimate partner** in the previous 12 months (12.5%). The rates are even more alarming in Oceania (excluding Australia and New Zealand), where over 1 in 4 women (28.6%) faced such violence, and in sub-Saharan Africa, where 1 in 5 women (20.4%) were affected.

Today, nearly
1 in 5
young women aged 20–24 was first **married or in a union before age 18** (19%), reflecting a moderate decrease since 2014 (22%).

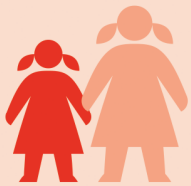
Globally, over
230 million
girls and women have undergone **female genital mutilation**.

63%
of cases in **Africa**.

35%
of cases in **Asia**.

3%
of cases in the **Middle East**.

Each year,
4 million
girls undergo female genital mutilation; over
2 million
are under age 5.



Women and girls continue to bear a disproportionate share of unpaid domestic and care work.

On average, women devote

2.5x

as many hours per day to these tasks as men.

Women in Northern Africa and Western Asia spend over four times as many hours as men, while in Oceania (excl. Australia and New Zealand), Europe and Northern America, women spend approximately twice as many hours. Trend data across countries are limited but indicate that **gender ratios in time spent on unpaid domestic and care work have decreased in Colombia, the Dominican Republic, Germany, Japan, Mexico, Mongolia, the United Kingdom and the United States**. In just a few cases, notably the Dominican Republic, Mongolia and Japan, a decrease in the ratio was accompanied by a reduction in the time women used for these activities. Ratios have remained largely unchanged in Canada, Guatemala and Switzerland. Older women also report being significantly impacted, especially in the aftermath of the pandemic.

Women facing multiple and intersecting inequalities are most impacted.

33% of women aged 60 and over, reported an **increase in childcare during COVID-19** compared to

62%

for their peers with disabilities.

As of 1 January 2025, women held

27.2%

of **seats in national parliaments**, a

4.9

percentage-point increase from 2015.

The **number of countries with 50% or more women in their lower or single chambers doubled** from three to six between 2015 and 2025. Quotas have helped drive these successes.

An astonishing **102 countries** **have never had a woman Head of State or Government.**

Women's representation in local governments stagnated at

35.5%

in 2023 and 2024, after an average annual increase of 0.4 percentage points since 2020.

Globally, women occupy

30.0%

of **managerial positions**, up only 2.4 percentage points between 2015 and 2023. At this pace, it will take nearly a century to achieve gender parity in management.

Despite global commitments, only

56.3%

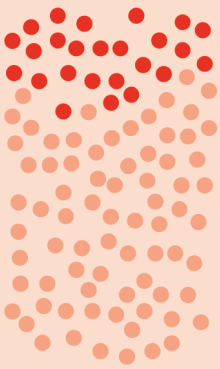
of women aged 15–49 who are married or in a union **have full decision-making power over their sexual and reproductive health and rights**, based on data from 78 countries.

In nearly 80% of countries with data, fewer than

half of women

have ownership or secure rights to agricultural land. In almost half these countries, men are at least twice as likely to own land as women.

Since 2021, the **gender gap in mobile phone** ownership has narrowed, from 9.4% to 7% in 2024. Gender gaps in mobile money account ownership have significantly narrowed as well: 37% of women in low- and middle-income countries owned such accounts in 2011 compared to 73% in 2024.



In 2024, only

26% of 121 countries

and areas had **comprehensive systems to track resource allocations for gender equality**, unchanged from 2021. This stagnation highlights persistent capacity gaps in accurately costing, allocating and spending resources to implement national gender equality laws and policies.

POST OF ATTORNEY GENERAL

Senior advocate R. Venkataramani is re-appointed as the Attorney General of India for two years.

About:

- The **Attorney General of India (AG)** is the **highest law officer** of the country and forms an integral part of the **Union Executive.** The office is established under **Article 76 of the Constitution of India.**
- **Appointment and Eligibility:**
  - The **Attorney General** is **appointed by the President of India** on the advice of the Government.
  - To be eligible, a person must be **qualified to be a judge of the Supreme Court**, i.e., they must:
    - Be a **citizen of India**, and
    - Have served as a **judge of a High Court for at least five years**, or
    - Have practiced as an **advocate in a High Court for at least ten years**, or
    - Be considered an **eminent jurist** by the President.
- **Term and Removal:**
  - The **tenure** of the Attorney General is **not fixed by the Constitution**.
  - The AG **holds office during the pleasure of the President**, meaning they can be **removed by the President at any time**.
  - The **Constitution does not specify** the grounds or procedure for removal.
- **Duties and Functions:**
  - To **advise the Government of India** on legal matters referred to them by the President.
  - To **perform legal duties** assigned by the President.
  - To **represent the Government of India** in the **Supreme Court** and **High Courts** in cases involving the Union.
  - To **appear before the Supreme Court** in matters referred by the President under **Article 143** (Presidential Reference).
- **Rights and Limitations:**
  - The AG has the **right to speak and participate** in the proceedings of **both Houses of Parliament** or their committees, but **cannot vote**.
  - They enjoy the **same privileges and immunities** as Members of Parliament.
  - The AG is **not a government servant** and can engage in **private legal practice**, but cannot **appear against** the Government of India, or **advise any party** against the interests of the Government.

Issues

- **Consent for Contempt Cases:** Under the **Contempt of Courts Act, 1971**, initiating criminal contempt proceedings requires the **consent of the Attorney General**. This provision can potentially be **misused by the ruling government**, as the AG's consent may be influenced by political considerations.
- **Unspecified Removal Procedure:** The **Constitution does not define** the procedure or grounds for removing the AG. The **President can dismiss the AG at any time**, which undermines the **independence and stability** of the office.
- **Tenure under the Pleasure Doctrine:** The AG holds office **during the pleasure of the President**, meaning the **tenure is not fixed**. This lack of security of tenure can make the AG **vulnerable to executive pressure**.
- **No Restriction on Private Practice:** The AG is **allowed to engage in private legal practice** since they are not categorized as a government servant. This raises potential **conflicts of interest,** especially if the AG represents private clients in cases that indirectly involve the government.

ROLE OF ADVOCATE GENERAL

Duties (Article 165)	Rights and Privileges
➲ Advise the state government on legal matters referred by the governor. ➲ Perform legal duties as assigned by the governor. ➲ Discharge functions as assigned by the constitution or other laws.	➲ Appear in any state court ➲ Participate in the state legislature (Article 177) ➲ Speak and take part in proceedings in both houses or any committee ➲ Privileges and immunities same as a state legislature member

Solicitor General (SG) of India

- He/She is the second-highest law officer in India after the Attorney General. It is a **statutory post** under the Law Officers (Conditions of Service) Act, 1968.
- Appointed by the **President** on the **recommendation of the Appointment Committee of the Cabinet**.
- The **tenure** of the SG is **3 years** (as per the **Law Officers Rules, 1987**) and they are **eligible for reappointment**.
- The SG assists the **Attorney General**, **represents the Government** in courts, and **provides legal advice** to ministries.
- **Restrictions:** Cannot **appear against the Government** or **advise any party** opposing it.

Way Forward:

- **Ensure Independence and Fixed Tenure:** Establish a fixed tenure and transparent removal process under parliamentary oversight to safeguard the Attorney General's independence.
- **Restrict Private Practice:** Implement ethical guidelines prohibiting private legal practice during the Attorney General's tenure to avoid conflicts of interest.

SUPREME COURT ON RESERVATION FOR PwDs

In Justice Sunanda Bhandare Foundation Case (2025), the Supreme Court asked the government to clarify if meritorious PwD candidates are moved to the general category, keeping reserved seats for other disabled candidates.

Key Observations of SC:

- **Legal Context:** Many meritorious candidates with disabilities are still counted under the reserved quota, which reduces opportunities for other Persons with Disabilities (PwDs).
  - This practice goes against the objective of **Section 34 of the Rights of Persons with Disabilities Act, 2016**, which aims to ensure fair representation and equal opportunities.
- **Comparison with Backward Classes:** In the case of **OBC/SC/ST reservations**, meritorious candidates are moved to the **general category**. The same benefit should be extended to **persons with disabilities**.
- **Discrimination Concern:** The court termed the current practice as **"hostile discrimination"** against disabled candidates.
- **Purpose of Reservation:** The broader aim is to **mainstream persons with disabilities**, ensuring equal opportunities in education and employment.
- **Inclusive Approach:** The court stressed that disability must not be seen as a **weakness**.Instead, it should serve as a **test of inclusiveness** for laws and institutions.

Definition of PwDs:

- As per the **UN Convention on the Rights of Persons with Disabilities (UN CRPD)**, persons with disabilities are those with **long-term physical, mental, intellectual, or sensory impairments** that hinder their full and equal participation in society.

Facts Related to PwDs in India (2011 Census)

- **Total:** 26.8 million persons with disabilities (about 2.21% of the population).
- **By gender:** 14.9 million men (2.41%) and 11.9 million women (2.01%).
- **Age group most affected:** 10–19 years (46.2 lakh)
- **Residence:** 69% (18 million) live in rural areas.

Challenges Faced by Persons with Disabilities (PwDs):

- **Social Challenges** – PwDs face **discrimination, loss of social status, and exclusion**, especially those with mental illnesses. Their identity often gets reduced to their disability.
- **Education Barriers** – Lack of **special schools, trained teachers, and study material** for visually and learning-impaired children. Many are denied admission due to stigma.
- **Healthcare Gaps** – PwDs often have **poor access to quality healthcare**, further worsening their marginalisation.
- **Unemployment** – Job opportunities are limited due to **stereotypes and reluctance of private employers**, leaving many PwDs financially dependent.
- **Accessibility Issues:** Absence of **disabled-friendly infrastructure** in transport, buildings, and public spaces restricts mobility and participation.

Barriers to Healthcare for Persons with Disabilities (WHO)

- **Attitudinal Barriers:**
  - Many health workers show **prejudice and stigma** towards PwDs.
  - There is often a **lack of awareness and training** about their specific needs.
  - Women with disabilities face added difficulties in accessing **sexual and reproductive healthcare.**
- **Physical Barriers:**
  - Healthcare centres often lack **ramps, accessible toilets, or wide doorways** for wheelchair users.
  - **Fixed-height beds and chairs** are not suited to PwDs.
  - Remote areas continue to suffer from a **shortage of healthcare facilities.**
- **Communication Barriers:**
  - Absence of **sign language interpreters** or adapted written material limits access for those with hearing disabilities.
  - PwDs with visual impairment struggle due to the **non-availability of Braille or large-print prescriptions.**
- **Financial Barriers:**
  - In low-income settings, **over half of PwDs cannot afford healthcare costs**.
  - **Expenses for travel, treatment, and medicines** create an additional burden.

Welfare Measures by Government:

- **Accessible India Campaign (Sugamya Bharat Abhiyan):** Aims to create a **barrier-free environment** for PwDs in: (a) Built environment, (b) Transport systems, and (c) ICT ecosystem.
- **Deendayal Disabled Rehabilitation Scheme (DDRS):** Provides financial assistance to NGOs for rehabilitation projects ensuring equity, social justice, and empowerment of PwDs.
- **Assistance to Disabled Persons for Purchase of Aids and Appliances (ADIP Scheme):** Supports needy PwDs in getting **durable and scientific aids/appliances**.
  - Implemented through NGOs, national institutes, and **ALIMCO** (PSU for artificial limbs).
- **Indian Sign Language Research and Training Centre (ISLRTC):** Promotes Indian Sign Language and develops human resources in this field.

Constitutional Provisions and Legal Provisions

Constitutional Provisions:

- **Fundamental Rights:**
  - **Article 14:** Equality before law and equal protection of laws for all, including PwDs.
  - **Article 15:** Prohibits discrimination on grounds of religion, race, caste, sex, or place of birth; interpreted to cover disability-based discrimination.
  - **Article 16:** Guarantees equality of opportunity in public employment; enables reservations for PwDs.
  - **Article 19:** Freedom of speech, expression, and movement also extend to PwDs, subject to reasonable restrictions.
  - **Article 21:** Protection of life and personal liberty, interpreted to include the right **to live with dignity** for PwDs.
- **Directive Principles of State Policy (DPSPs):**
  - **Article 41:** Directs the State to provide for the right to work, education, and public assistance in cases of unemployment, old age, sickness, and disability.
  - **Article 46:** Instructs the State to promote the educational and economic interests of weaker sections and protect them from social injustice and exploitation.
- **Schedules of the Constitution:**
  - **Seventh Schedule (Entry 9, State List):** Relief of the disabled.
  - **Eleventh Schedule (Item 26):** Welfare of disabled and mentally retarded (for Panchayats).
  - **Twelfth Schedule (Item 9):** Welfare of disabled (for Municipalities).

Legal Provisions:

- **The Mental Healthcare Act, 2017:** Provides for mental healthcare services and safeguards the rights of persons with mental illness.
- **The Rights of Persons with Disabilities (RPwD) Act, 2016:** Recognizes **21 categories of disabilities** (e.g., blindness, hearing impairment, autism, cerebral palsy, thalassemia, hemophilia, sickle cell disease, acid attack victims, etc.).
- Raised reservations for PwDs from **3% to 4% in jobs** and **3% to 5% in higher education**.
- Mandates accessibility in public buildings within a set timeframe.
- **Rehabilitation Council of India (RCI) Act, 1992:** Gave statutory status to RCI (est. 1986).
- Regulates services for PwDs, standardizes training syllabi, and maintains a central register of rehabilitation professionals.

- **National Institute of Mental Health Rehabilitation (NIMHR):** Works on **capacity building and community-based rehabilitation** for persons recovering from mental illness.
- **State Initiatives (Haryana's Divyang Protocol):** Implemented by the Department of Women and Child Development, Haryana to promote **disability inclusion** at the state level.

Supreme Court's Guidelines in Nipun Malhotra Case (2021)

- **Avoid Derogatory Language:** Words like ***cripple, spastic, afflicted, suffering,*** or ***victim*** should not be used, as they reinforce negative self-image and discriminatory attitudes.
- **Ensure Accurate Representation:** Disabilities must be portrayed realistically and respectfully. The principle of ***"nothing about us, without us"*** should guide creators, involving PwDs in media production and review.
- **Creative Freedom with Responsibility:** Filmmakers' freedom does not allow mocking, stereotyping, or misrepresenting marginalized groups, including PwDs.
- **Collaboration with Advocacy Groups:** Filmmakers should work with disability advocacy groups for authentic portrayals. Training for writers, directors, and actors is needed to represent PwDs' challenges correctly.

Way Forward:

- **Inclusion in Society:**
  - Provide better education, equal job opportunities, and encourage participation of PwDs in social and political decision-making.
- **Social Sensitization:**
  - Overcome stigma by spreading awareness and educating people about challenges faced by PwDs.
  - ***Example:*** Using respectful terms like *Divyangjan.*
- **Early Prevention:** Strengthen programmes like **Comprehensive Newborn Screening (CNS)** under Rashtriya Bal Swasthya Karyakram for early detection and prevention of disabilities.
- **Policy and Budget Support:**
  - Allocate more funds for disability welfare and introduce disability budgeting, similar to gender budgeting.
- **Timely Appointments:**
  - Ensure States appoint **Disability Commissioners** promptly, selecting experts from law, human rights, or social work instead of only civil servants.
- **Role of Entertainment Sector:**
  - Encourage films and media to create inclusive spaces and promote positive portrayals of PwDs.

BACKLOG OF CASES IN THE SUPREME COURT

The Supreme Court (SC) of India is facing an unprecedented rise in pending cases, with 88,492 matters awaiting disposal including 69,605 civil and 18,887 criminal cases.

Causes of Pendency:

- **Low Disposal Rate:** New filings continue to outnumber disposals. In **August 2025,** 7,080 cases were registered, while only 5,667 were resolved — creating a disposal rate of about **80%,** which adds steadily to the backlog.
- **Limited Working Days:** The Supreme Court functions for roughly **190–195 days annually**, far fewer than courts in other major democracies. Extended vacations and restricted sitting hours reduce effective hearing time.
- **Procedural Complexity and Adjournments:** Complex procedural rules, repetitive documentation, and frequent adjournments delay proceedings. Lawyers' requests for postponements and multi-stage appeals add years to resolution.
- **Low Judge-to-Population Ratio:** India has **21 judges per million people**, much lower than the **Law Commission's recommended 50 per million**. This shortage creates excessive workload per judge and slows the disposal rate.
- **Overuse of Special Leave Petitions (SLPs):** Article 136's provision for exceptional cases is misused through indiscriminate filing of SLPs, even for minor disputes, overburdening the SC.
- **Government as the Largest Litigant:** Around 50% of cases involve govt. entities, often repetitive or inter-departmental, which could be resolved internally to reduce pendency.
- **Inadequate Infrastructure and Technology Adoption:** Many courts lack robust digital filing, AI-based scheduling, and case-tracking despite partial implementation of the E-Courts Project and NJDG.
- **Legacy and Long-Term Backlog:** Thousands of cases pending for 10–30 years persist due to the absence of systems to prioritize or consolidate similar cases for speedy resolution.
- **Lack of Alternative Dispute Resolution:** Mediation, arbitration, and conciliation remain underutilized despite their potential to ease court burdens and expedite dispute resolution.

Implications of Judicial Delays

- **Erosion of Public Trust:** Prolonged delays in justice weaken public confidence in the judiciary, especially in matters related to **constitutional rights, corruption, and social justice**.
- **Economic Consequences:** Lengthy litigation discourages **foreign and domestic investment**, increases the cost of doing business, and reduces India's ease of doing business ranking.
- **Social Injustice:** Delayed civil and criminal cases disproportionately affect **marginalized and poor communities**, prolonging uncertainty and denying them timely relief.
- **Prison Overcrowding:** As per the **India Justice Report (2025)**, **76% of inmates** in Indian prisons are **undertrials**, awaiting verdicts due to judicial delays, leading to human rights concerns.
- **Weakening of Rule of Law:** When justice is excessively delayed, people begin to lose faith in legal institutions, encouraging **vigilantism** and **out-of-court settlements**, undermining the **rule of law**.
- **International Reputation:** India's slow judicial process affects its **global perception**, especially in enforcing commercial contracts, impacting investor confidence, etc.

Steps Taken

- **Differentiated Case Management (DCM):** The Supreme Court's *Unclogging the Docket Initiative* classified and fast-tracked old, infructuous, and short cases, achieving a **104% disposal rate** — a record in judicial efficiency.
- **Expedited Appointment of Judges:** The sanctioned strength of the Supreme Court was increased to **34 judges**, and the government now approves **Collegium recommendations within 48 hours**, reducing vacancy delays and boosting capacity.
- **Digital Transformation and E-Courts:** The judiciary has introduced **e-filing**, **virtual hearings**, and **Electronic Case Management Tools (ECMTs)**, while the **National Judicial Data Grid (NJDG)** provides real-time transparency on pendency data.
- **Legislative and Procedural Reforms:** Time-bound justice measures have been implemented through amendments in the **Arbitration and Conciliation Acts (2015 & 2019)**, **Commercial Courts Act (2018)**, and **Negotiable Instruments Act (2018)** for faster dispute resolution.
- **Administrative and Arrears Management Reforms: Arrears Committees** monitor case clearance, and the Chief Justice converted **summer recess into partial working days**, ensuring continuous judicial functioning to reduce backlog.

Way Forward

- **Strengthening Judicial Capacity and Infrastructure:** Raise the judge-to-population ratio from 21 to 50 per million with enhanced courtrooms, staffing, and digital infrastructure.
- **Structural Reform of the Supreme Court:** Split the Supreme Court into a Constitutional Division and a Legal Division as proposed by the Law Commission.
- **Expansion of Alternative Dispute Resolution (ADR):** Strengthen mediation, arbitration, and Lok Adalats to divert minor disputes and reduce higher court burdens.
- **Adoption of Artificial Intelligence (AI) and Predictive Tools:** Deploy AI for case categorization, scheduling, and clustering to expedite hearings and identify bottlenecks.
- **Time-Bound and Performance-Based Accountability:** Enforce a Judicial Timeliness Framework with time limits for case disposal and annual performance audits using NJDG data.

UNDP REPORT ON FOREST RIGHTS ACT

The UNDP report "Securing Rights, Enabling Futures Policy Lessons from FRA and Future Pathways" reviewed nearly 20 years of Forest Rights Act (FRA) implementation.

About Forest Rights Act, 2006

- The **Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006**, commonly known as the **Forest Rights Act (FRA)**, was enacted to recognize and vest forest rights in forest-dwelling communities who were historically marginalized and deprived of their traditional rights.
- **Objective:** To **correct historical injustices** faced by forest-dwelling Scheduled Tribes and other traditional forest dwellers, and to **secure their livelihood, habitat, and food security** through legal recognition of their forest rights.

Key Provisions of the Act

- **Recognition of Forest Rights:** The Act recognizes both **individual** and **community** rights of forest dwellers.
  - **Individual Rights:** Include rights to **self-cultivation**, **habitation**, and **in-situ rehabilitation** for those displaced from forest lands.
  - **Community Rights:** Cover rights to **graze livestock**, **fish**, and **access water bodies**, as well as rights over **minor forest produce**, **intellectual property**, and **traditional knowledge**. Communities also have the right to **protect and conserve forests** and **maintain their traditional practices**.
- **Eligibility Criteria:** Any individual or community that has **resided in and depended on forests for at least three generations (75 years)** prior to **13th December 2005** is eligible to claim rights under the Act.
- **Critical Wildlife Habitats (CWHs):** The Act mandates that **critical wildlife habitats** within **National Parks and Wildlife Sanctuaries** must remain **inviolate** for conservation purposes. However, relocation of forest dwellers from such areas can occur only with **free, informed consent** and **proper rehabilitation**.
- **Institutional Mechanism for Granting Forest Rights:**
  - **Gram Sabha:** The primary authority to **initiate the process** of determining the nature and extent of individual and community forest rights.
  - **Sub-Divisional Level Committee (SDLC):** Examines the **resolutions and claims** forwarded by the Gram Sabha and verifies their authenticity.
  - **District Level Committee (DLC):** Provides the **final approval** for the recognition and vesting of forest rights.

Key Findings of the UNDP Report

- **Persistent Gaps:** Implementation of the FRA remains uneven due to **historical conflicts**, **weak policy execution**, and **jurisdictional overlaps**.
  - Several FRA land titles are missing from official records, especially in **Chhattisgarh**, indicating poor record-keeping.
- **Sunset Clause Debate:** Some states such as **Chhattisgarh, Odisha, and Maharashtra** have proposed an **"end date"** for recognition and vesting of rights. The report, however, suggests that **Gram Sabhas** should decide when the process has reached **saturation** instead of imposing a deadline.
- **Incorrect Recognition of Titles:** In some areas, **titles were wrongly issued** due to inadequate verification, inaccurate mapping, and weak coordination between agencies.
- **Institutional Challenges:** There are ongoing **conflicts between the Tribal Welfare and Forest Departments**, causing delays. The **integration of Gram Sabha Forest Management Plans** with official **Forest Working Plans** also remains unclear.
- **Record-Keeping Issues:** The absence of a **centralised and updated database** of FRA titleholders has made monitoring, verification, and transparency difficult.

Key Recommendations of the UNDP Report

- **Strengthen Governance After Recognition:** Set up **inter-departmental committees** to resolve conflicts and ensure coordination between tribal, forest, and revenue authorities.
- **Improve Record-Keeping:** Maintain **accurate, digitised, and centralised records** of all FRA titleholders at the state and national level.
- **Promote Gender Equity:** Collect **gender-disaggregated data**, and ensure **women's leadership** in preparing **Community Forest Resource (CFR)** management plans.
- Link FRA with the **National Rural Livelihood Mission (NRLM)** to promote **gender-sensitive livelihood options**.
- **Mainstream Forest Rights:** Include **FRA beneficiaries** in all **government welfare and livelihood schemes**.
  - Formulate a **National Tribal Policy** (for a 5-year period) to coordinate tribal welfare and forest governance.
  - Use **Article 275(1)** of the Constitution for targeted financial support to integrate **FRA** and **PESA** (Panchayats Extension to Scheduled Areas) for stronger self-governance.
- **Sustaining Progress:** Mission-mode schemes like **PM JANMAN** and **DAJGUA** have shown progress, but long-term programmes are needed to ensure **durable and inclusive growth**.
- **Unused Provisions:Section 3(1)(k)** of the FRA, which provides **community rights over biodiversity, intellectual property, and traditional knowledge**, remains largely **unutilised** but offers strong potential for **community-led income generation**.
- **Minor Forest Produce (MFP):** Clarify rules on **ownership, harvesting, transport, and sale** of MFP to ensure forest dwellers get a **fair share of forest-based income.**

INDIA–SINGAPORE RELATIONS

Recently, Prime Minister Narendra Modi hosted Singaporean Prime Minister Lawrence Wong in New Delhi.

Key Outcomes of the Summit

- **Economic and Trade Cooperation:** India and Singapore are reviewing the **Comprehensive Economic Cooperation Agreement (CECA)** and the **ASEAN Free Trade Agreement (FTA).**
  - A **National Centre of Excellence (CoE)** for advanced manufacturing skills is being set up in Chennai with Singapore's support.
- **Technology and Digital Cooperation:** A **Joint Working Group (JWG) on Digital Technologies** will promote innovation. Collaboration in **Artificial Intelligence (AI)** covers agriculture, healthcare, and education.
  - The **India–Singapore Semiconductor Policy Dialogue** supports India's chip ecosystem.
- **Sustainability and Connectivity:** Work is underway on **Green and Digital Shipping Corridors.** The **Jawaharlal Nehru Port Authority (JNPA) Bharat Mumbai Container Terminal Phase-2,** developed with **Port of Singapore Authority (PSA) International,** was inaugurated; JNPA handles **54% of India's container cargo.**
- **Defence and Security:** India's role in the **Malacca Straits Patrol (MSP)** has been acknowledged. Both sides are deepening cooperation in **maritime security, submarine rescue, and Maritime Domain Awareness (MDA).**

Significance

- **Historical and Civilizational Connect:** India and Singapore share millennia-old cultural and trade ties.
  - Under colonial rule, Singapore was governed from Kolkata till 1867, leaving strong institutional and diaspora links. India was among the first to recognize Singapore in 1965.
- **Geo-Political Ties:** India and Singapore celebrated **50 years of diplomatic relations in 2015,** marking a key milestone in their partnership. Since then, frequent high-level visits and agreements have strengthened mutual trust.
  - Singapore is central to **India's Act East Policy** and plays a pivotal role in India's **Indo-Pacific vision,** serving as both a strategic partner and a bridge to ASEAN.
- **Geo-strategic Relations:** In **Sept 2024,** ties were upgraded to a **Comprehensive Strategic Partnership (CSP)** with a **Roadmap (2025)** covering 8 key areas including economy, defense, and digitalization.
  - Singapore's location at the **Strait of Malacca** makes it a critical energy and trade chokepoint. India's **Andaman & Nicobar Command** provides proximity to this route, strengthening its Indo-Pacific maritime security role.
    - Nearly 40% of India's trade and 80% of China's oil imports pass through it.
  - Access to **Singapore's Changi Naval Base** further enhances India's strategic reach.
- **Geo-Economic Relations:**
  - **Comprehensive Economic Cooperation Agreement (CECA)** – 2005 covers trade, services, and investments
  - Singapore is India's **largest ASEAN trade partner** (USD 34.3 bn, 2024–25) and **top FDI source** (USD 14.9 bn, 24% of total).
  - About 9,000 Indian firms operate in Singapore, and the **UPI–PayNow link** deepens financial integration.
- **Defense and Security Cooperation:** The Defense Cooperation Agreement (2003, renewed 2015) underpins close ties.
  - Joint exercises include **Agni Warrior (Army), SIMBEX (Navy), JMT (Air Force).** Singapore also joins India's **Milan** and ASEAN–India maritime exercises.
- **Science, Technology, and Digital Cooperation:** ISRO has launched Singaporean satellites, boosting space ties. Cooperation covers **semiconductors, cyber policy, digital innovation, and green economy.**
  - The **Cyber Policy Dialogue (2024)** reflects growing tech engagement.
- **Education and Skill Development:** Joint **skill centres** exist across Indian states with new projects in Bhopal and Gandhinagar.
  - A **National Center of Excellence for Advanced Manufacturing** was announced in Chennai (2025).
- **Cultural and Diaspora Connect:** Nearly **9% of Singapore's residents** are of Indian origin, with Tamil as an official language.
  - India announced a **Thiruvalluvar Cultural Centre** (2024). Indian art, dance, and theatre remain central to exchanges.
- **Multilateral and Regional Cooperation:** Singapore supports India's **UNSC permanent seat** and has joined the **International Solar Alliance (2023)** and **Global Biofuel Alliance (2023).**
  - As ASEAN coordinator (2021–24), it helped upgrade **India–ASEAN ties to CSP,** cementing its role as India's key ASEAN partner.

Challenges in the Relationship

- **Persistent Trade Deficit:** Bilateral trade touched **USD 34.3 billion in 2024–25,** but India faced a trade deficit of **USD 8.3 billion,** reflecting structural imbalances despite CECA and ASEAN FTAs.
- **Limited Market Access:** Indian service providers often face **restrictions in licensing, certification, and recognition of qualifications** under CECA.
  - The prolonged review of CECA shows these regulatory mismatches remain unresolved.

- **Overreliance on Singaporean FDI:**
  - Singapore is India's **largest FDI source** (USD 14.9 billion in 2024–25; USD 175 billion since 2000).
  - Heavy reliance on a single partner makes India vulnerable to shifts in Singapore's financial flows.
- **Geopolitical Balancing:** Singapore maintains strong ties with both **China and the U.S.,** making it cautious about aligning fully with India on sensitive issues like the South China Sea or Taiwan.
- **Implementation Bottlenecks:** Connectivity and infrastructure projects, such as **JNPA Phase-2,** often face delays due to land acquisition, regulatory hurdles, and poor inter-agency coordination in India.
- **Domestic Sensitivities:**
  - In Singapore, job market concerns sometimes lead to pushback against Indian professionals.
  - In India, fears persist that outsourcing and financial flows benefit Singapore disproportionately.

Way Forward

- **Address Trade Imbalance:** Accelerate the review of **CECA and ASEAN FTA** to secure better market access for Indian goods and services, especially in IT, pharma, and agriculture.
- **Expand Market Access in Services:** Negotiate mutual recognition of professional qualifications and ease licensing rules to boost Indian service exports in healthcare, education, and fintech.
- **Speed Up Connectivity Projects:** Ensure timely execution of joint infrastructure projects like **JNPA Phase-2** and proposed **Green & Digital Shipping Corridors** by reducing bureaucratic delays and regulatory hurdles.
- **Diversify FDI Sources:** While retaining Singapore as a key partner, India should also attract investments from other ASEAN members and global funds to reduce overreliance.
- **Deepen Strategic and Security Ties:** Leverage Singapore's location at the **Strait of Malacca** through more joint naval exercises, submarine rescue cooperation, and stronger **Maritime Domain Awareness (MDA)** in the Indo-Pacific.

INDIAN OCEAN TO PACIFIC OCEANS MARITIME CHOKEPOINTS

INDIA-MAURITIUS RELATIONS

India unveiled a special economic package for Mauritius, focusing on major projects in infrastructure, healthcare, and maritime sectors.

Key Announcements of the Package:

- **Development and Economic Assistance:** India announced a **Special Economic Package** for Mauritius, including projects in **Port Louis development, Chagos Marine Protected Area surveillance, infrastructure, healthcare, and jobs.**
  - The first **Jan Aushadhi Kendra outside India** has been set up in Mauritius, and India will also help establish an **AYUSH Centre of Excellence.**
- **Community and Capacity Building:** An MoU was signed for **Phase 2 of High Impact Community Development Projects** to boost local development. India will also support **civil service training** in Mauritius using its **Mission Karmayogi platform.**
- **Energy Partnership:** A new MoU on the **energy and power sector** was signed to support Mauritius's energy security, including the development of a **17.5 MW floating solar power plant.**
- **Space Cooperation:** India and Mauritius signed an MoU to enhance cooperation in **satellite telemetry, navigation, remote sensing, and capacity building in space technology.**

$680 MN ECONOMIC PACKAGE

GRANT-BASED PROJECTS (USD 215 million)

- Construction of Sir Seewoosagur Ramgoolam National Hospital
- Establishment of AYUSH Centre of Excellence
- Setting up of a veterinary School and animal hospital
- Provision of helicopters

GRANT-CUM-LOC PROJECTS (USD 440 million)

- Completion of the Air Traffic Control tower at SSR International Airport
- Development of the Motorway M4
- Expansion of the Ring Road (Phase II)
- Procurement of port-related equipment

$25 MN BUDGETARY ASSISTANCE TO MAURITIUS STRATEGIC COOPERATION

- Redevelopment and restructuring of the Mauritius port
- Development and surveillance of Chagos Marine Protected Area

Significance of India–Mauritius Relations

- **Diplomatic & Cultural Ties:** Established in 1948, ties are reinforced by Mauritius's 70% Indian-origin population shaped by historical migration under French and British rule.
- **Strategic Location:** Positioned in the western Indian Ocean, Mauritius supports India's SAGAR/MAHASAGAR vision for maritime security and counters China's regional influence.
- **Economic Gateway:** Serves as India's entry point for trade and investment in Africa through the African Continental Free Trade Area (AfCFTA).
- **Investment and Finance:** With USD 554 million bilateral trade (2022–23), Mauritius is India's second-largest FDI source, contributing over USD 180 billion (2000–2025); DTAA (1982) and CECPA (2021) strengthen this partnership.
- **Development Support:** India has provided over USD 1 billion in aid for healthcare, education, and cultural projects, alongside capacity-building for civil and security personnel.
- **Disaster Relief:** India has acted as a first responder during crises like the Wakashio oil spill (2020), Cyclone Chido, and the COVID-19 pandemic.
- **Cultural and People Links:** Around 26,000 Indians and 13,000 OCI cardholders reside in Mauritius; visa-free travel and student exchanges enhance people-to-people bonds.
- **Defence & Security:** India remains Mauritius's key defence partner, supplying Dornier aircraft, Dhruv helicopters, and extending a USD 100 million Line of Credit.

Challenges in Relations:

- **Market Barriers:** India's exports face non-tariff restrictions and limited market access in Mauritius, leading to trade imbalances and slower economic integration.
- **Overdependence on Indian Assistance:** Mauritius's heavy reliance on India for aid, healthcare, and security creates asymmetry and dependency concerns.
- **Sovereignty Concerns in Security and Data:** India's role in maritime and digital cooperation raises debates in Mauritius about sovereignty and external influence.
- **Implementation Delays in Projects:** Energy, space, and infrastructure MoUs often face bureaucratic hurdles and poor coordination, weakening their effectiveness.
- **Political and Domestic Perceptions:** Some in Mauritius view India's influence as overbearing, especially regarding domestic politics and diaspora issues, causing occasional friction.
- **Competition from Other External Powers:** Growing engagement by China, the EU, and France through trade and infrastructure challenges India's traditional influence in Mauritius.
- **Chagos Archipelago Dispute:** The unresolved Diego Garcia sovereignty issue between Mauritius and the UK complicates India's strategic and security interests in the Indian Ocean.

Way Forward:

- **Diversify Economic Partnership:** Expand collaboration in services, fintech, blue economy, and digital innovation to reduce trade dependence and correct imbalances.
- **Ensure Balanced Development Cooperation:** Design Indian assistance with local participation to align with Mauritian priorities and prevent perceptions of overdependence.
- **Strengthen Maritime and Security Cooperation:** Continue joint efforts in maritime surveillance, anti-piracy, and disaster response while upholding Mauritian sovereignty.
- **Timely Implementation of Projects:** Establish a joint monitoring mechanism to expedite infrastructure, energy, and space projects for greater efficiency and impact.

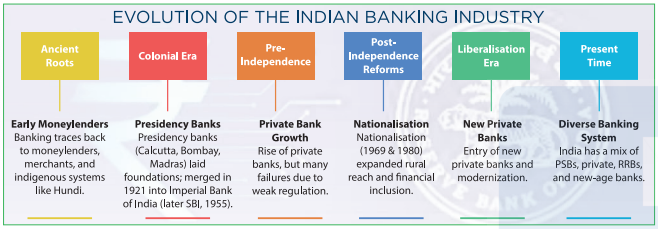
BANKING INDUSTRY IN INDIA

Recently, The President of India highlighted India's banking sector in shaping the nation's economic growth and driving inclusion.

Key highlights of Speech:

- India's rapid growth has expanded aspirations, with banks driving inclusive, sustainable development under citizen-centric.
- Banks must empower farmers through credit, literacy, and agri-tech.
- Banks should support MSMEs, including marginalized workers.
- Technology is widening banking access, with banks driving digital transformation.

Background of Banking Industry:



Role of the Banking Industry in National Growth

- **Resource Mobilization & Capital Generation:** Banks pool public savings and convert them into productive investments, generating capital for economic growth.
- **Credit Expansion & Economic Growth:** They allocate credit to industries, MSMEs, and infrastructure, driving employment and development.
- **Financial Inclusion & Digital Transformation:** Schemes like PMJDY and digital tools like UPI expand access to banking and enable secure digital transactions.
- **Government & Fiscal Operations:** Banks manage public debt, deliver subsidies via DBT, and streamline tax collection for fiscal efficiency.
- **Financial Stability & Business Development:** They ensure financial security, support trade, and facilitate smooth domestic and international payments.
- **MSME Support:** Tailored credit to MSMEs (Micro, Small & Medium Enterprises) drives jobs and innovation.
- **Infrastructure Funding:** Long-term loans finance roads, railways, ports, and digital infra for development.
- **Agriculture & Rural:** Credit, literacy, and agri-tech make farming sustainable, KCC (Kisan Credit Card) to RuPay cards empower rural economy.

Challenges Associated with India's Banking Industry

- **Asset Quality & NPAs:** Loan recoveries lag behind slippages, MSMEs and agriculture remain vulnerable, raising default risks.
- **Capital Adequacy:** While large banks adapt to Basel III, smaller banks struggle; inter-bank linkages heighten systemic risk.
- **Financial Inclusion vs. Profitability:** Rural outreach is limited by digital gaps, and high Net Interest Margins question efficiency and competitiveness.
- **Competition & Consolidation:** Mergers reduce competition, while private banks' aggressive lending may increase risk.
- **Cybersecurity Threats:** Phishing, ransomware, Distributed Denial of Service (DDoS), and fake apps threaten stability, with banks reporting nearly one-fifth of India's cyber incidents.
- **Shadow Banking** – NBFCs give loans like banks but with less control, which can be risky, so more transparency is needed.

Key Reforms in India's Banking Industry:

- **Banking Laws (Amendment) Act, 2025:** It introduced 19 amendments across five major banking laws:
  - **Governance Enhancements:** Director tenures in cooperative banks aligned with the 97th Constitutional Amendment.
  - **Audit Reforms:** Public Sector banks (PSBs) empowered to offer competitive remuneration to statutory auditors, improving audit quality.
  - **Investor Protection:** PSBs can now transfer unclaimed shares and bond redemption amounts to the Investor Education and Protection Fund (IEPF).
  - **Substantial Interest Threshold:** Revised from ₹5 lakh to ₹2 crore, modernizing outdated definitions.
- **4R Strategy for PSB Revival (2014):** It includes:

01 **Recognising** NPAs transparently to ensure accurate identification of stressed assets.

02 **Resolution** and Recovery of NPAs through targeted measures and legal frameworks.

03 **Recapitalising** PSBs to strengthen their financial position and lending capacity.

04 **Reforms** in governance and operational practices to enhance efficiency and resilience.

- **Indradhanush Framework (2015):** *7-pillar reform plan for PSBs:* appointments, Bank Board Bureau, capital infusion, NPA resolution, board autonomy, accountability, and governance reforms.
- **Decriminalisation and Ease of Compliance:** Introduced the Jan Vishwas (Amendment of Provisions) Bill, 2025 in Lok Sabha,aims to:
  - Decriminalize over 100 provisions across financial laws.
  - Simplify compliance for MSMEs and startups.
  - Promote a trust-based regulatory framework.

INDIA'S PULSES SECTOR

A report titled "Strategies and Pathways for Accelerating Growth in Pulses towards the Goal of Atmanirbharta" was released by the NITI Aayog.

About Pulses:

- **India & Pulses:** India is the largest producer and consumer (~38% area, ~28% output) and the second-largest importer after China, making self-reliance a policy priority.
- **Nutritional Value:** Pulses provide protein, fiber, vitamins, and minerals, ensuring food security and supporting SDG 2 (Zero Hunger) and SDG 3 (Good Health).
- **Sustainability:** With nitrogen fixation, low water needs, and low carbon footprint, pulses improve soil health and align with SDG 13 (Climate Action) and SDG 15 (Life on Land).
- **Policy Roadmap:** NITI Aayog's strategy outlines pathways for growth and transformation toward Atmanirbharta in pulses.

Pulses Production in India:

- **Agro-Climatic Diversity:** India grows 12 pulse crops across kharif, rabi, and summer seasons.
- **Production Hubs:** Madhya Pradesh, Maharashtra, and Rajasthan contribute ~55%, while the top 10 states account for over 91% of output.
- **Policy Priority:** Bridging gaps in production is key to reducing imports, ensuring nutritional security, and achieving Atmanirbharta in pulses.

Challenges Highlighted by the Report:

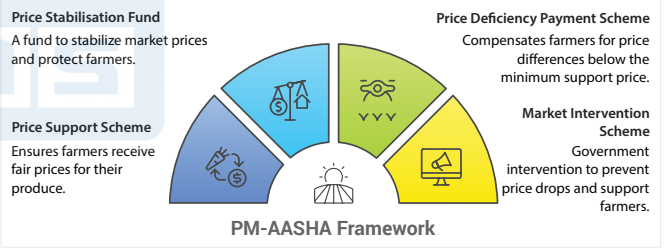
- **Low Yield:** India's average yield (0.74 t/ha) is below the global average (0.97 t/ha), lowest among top 10 producers.
- **Technological Gaps:** Limited high-yielding varieties, weak extension, poor seed access, and pest/disease management issues.
- **Environmental Constraints:** Predominantly rainfed cultivation, poor irrigation, and high climate vulnerability (droughts, erratic rainfall, El Niño/La Niña).
- **Market Issues:** Price volatility, low profitability vs. cereals, and weak marketing channels reduce farmer incentives.

NITI Aayog Recommendations:

- **Area Retention & Diversification:** Retain current pulse area and diversify crops through cluster-based strategies tailored to AESRs (Agro-Ecological Sub-Regions).
- **Seed & Technology:** Supply quality seeds and treatment kits, focusing on 111 high-potential districts (75% of output); promote ***One Block–One Seed Village*** through Farmer Producer Organisations FPOs)
- **Climate Adaptation:** Mainstream proactive measures to tackle El Niño–Southern Oscillation (ENSO) events like El Niño and La Niña, along with other climate shocks.
- **Data-Driven Transformation:** Develop monitoring, early warning, and market intelligence systems; use technology platforms for transparency and traceability across the value chain.

Initiative for Achieving Self-Reliance in Pulses Production:

- **National Food Security Mission (NFSM-Pulses):** Boosts production of rice, wheat, pulses, and cereals via area expansion, soil fertility, productivity, and technology transfer.
- **Buffer Stock:** Govt. created a 1.5 lakh tonne buffer of pulses through procurement and imports to stabilise availability and prices.
- **Seed Hub Programme:** Expands supply of high-yielding, fast-growing pulse seed varieties.
- **Krishi Vigyan Kendras (KVKs):** Demonstrate ICAR (Indian Council of Agricultural Research) technologies in farmers' fields.
- **e-NAM:** Enables transparent online trading and price discovery for farm produce.
- **Minimum support price (MSP):** Increased MSP for 14 kharif crops, including pulses, for the 2025–26 marketing season.



PM-AASHA Framework

Mission for Atmanirbharta in Pulses

The Union Budget 2025–26 announced a six-year Mission, Mission Atmanirbharta in Pulses, focusing on tur, urad and masoor, was set up with the following five pillars:

- **Assurance of Procurement:** NAFED and NCCF will assist with procurement for farmers, under four-year agreements to sell any quantity to NAFED at assured prices.
- **Seed Systems and Traceability:** Quality seeds will be distributed in 111 high-potential districts for major pulses under the "One Block–One Seed Village" model.
- **Strengthening FPOs:** To ensure improved bargaining capacity, access to seeds, and better market linkages.
- **Nutrition Factor:** Expanding the role of pulses in the Public Distribution System (PDS) and mid-day meals.
- **Value Chain Development:** Mechanisation, value addition, post-harvest loss management.

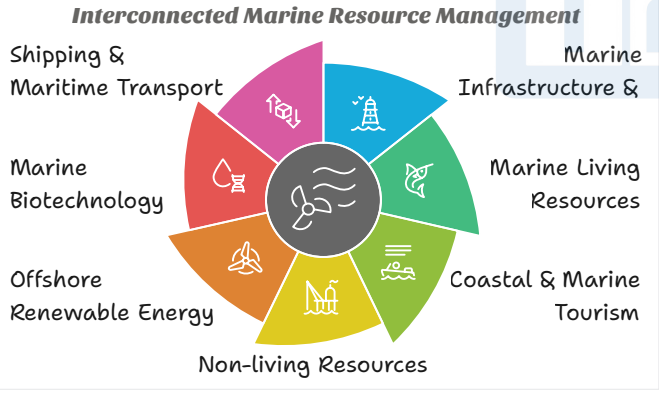
FIVE YEARS BLUE ECONOMY

The Pradhan Mantri Matsya Sampada Yojana (PMMSY) has significantly advanced the fisheries sector by making it ecologically sustainable, economically viable, and socially inclusive five years since its launch.

About:

- **Definition:**
  - **World Bank: S**ustainable use of ocean resources for economic growth, jobs, and livelihoods while preserving ocean health.
  - **India Ministry of Earth Sciences (MoES):** Subset of national economy comprising ocean resources and related infrastructure, linking growth, sustainability, and national security.
- **Objective:** Promotes growth, jobs, food security, and innovation through sustainable use of marine resources.It also safeguards biodiversity, reduces pollution.
- The Blue Revolution, launched in 2015, aimed to boost fish production and modernize the fisheries value chain.
- **Blue Economy 2.0:** Focused on climate-resilient growth, coastal ecosystem restoration, and following components:
  - **Ecosystem:** Restore mangroves, reefs, shorelines.
  - **Aquaculture:**Promote sustainable farming with support.
  - **Integration:** Align sectors with Blue Economy via tech.

Structure and Components:



Challenges Associated with Blue Economy:

- **Environmental Issues:** Challenges include overfishing, pollution, coral reef degradation, and climate change impacts.
- **Policy and Governance:** Weak coordination and regulatory delays slow Blue Economy projects.
- **Technological:** Gaps in R&D for offshore wind, marine biotech, and deep-sea mining.
- **Financial:** Low private investment (15% in Sagarmala) and high capital costs hinder growth.
- **Social:** Issues of displacement, limited women's role, and poor credit access for fisherfolk.

Government Initiatives:

- **Deep Ocean Mission (2021):** Focuses on deep-sea exploration, mineral mapping, marine biotechnology, and clean energy.
- **Maritime India Vision 2030:** Roadmap for port-led development, green shipping, and global maritime competitiveness.
- **Pradhan Mantri Matsya Sampada Yojana:** Aims to modernize fisheries, boost exports, and ensure sustainable livelihoods.
- **Sagarmala Programme:** Developed port infrastructure, coastal connectivity, and logistics efficiency.
- **National Policy on Marine Fisheries (2017):** Promotes sustainable fishing, MPAs, livelihoods, and blue economy research.
- **Global Ocean Alliance:** Coalition to protect 30% of oceans by 2030 through MPAs and sustainable fisheries.
- **UN Ocean Decade (2021–2030):** Strengthens Ocean science for sustainable management of marine resources.
- **UNCLOS (1982), CBD (1992), BBNJ Treaty (2023):** Ocean governance & biodiversity.

Global Initiatives for Blue Economy:

- **Seychelles:** Launched the world's first sovereign blue bond (2018) to finance sustainable fisheries and marine conservation.
- **Mauritius:** Diversifies economy through marine tourism, aquaculture, and renewable ocean energy projects.
- **EU:** Blue Growth Strategy (2012) promotes biotech, offshore renewables, fisheries, coastal tourism, and maritime transport.
- **Norway:** Global leader in Marine Spatial Planning (MSP) integrating fisheries, energy, and conservation.
- **China:** Expanding aquaculture, marine biotechnology, and deep-sea mining for resource security.

Way Forward:

- **Blue Finance:** Use blue bonds, PPPs, blended finance, and carbon credits for ocean projects.
- **Governance Reform:** Form a Blue Economy Council with digital dashboards for coordination.
- **Capacity Building:** Train 50,000 under the National Blue Skills Programme by 2028.
- **Research & Innovation:** Create a Blue Economy Research Hub (IITs, IISc, NIO).
- **Global Leadership:** Advance Blue Diplomacy for regional and global ocean governance.
- **Boost Tech-led Infrastructure:** Develop ULCV-ready ports and adopt blockchain, IoT, and AI for efficient shipping.
- **MCS (Monitoring, Control, and Surveillance):** Equip Indian fishing vessels with **VMS (Vessel Monitoring System)** like **AIS (Automatic Identification System)** or transponders to share position data with control centres.

THE NATIONAL LOGISTICS POLICY

The Department for Promotion of Industry and Internal Trade (DPIIT) commemorates the third anniversary of the National Logistics Policy (NLP), launched in 2022.

About:

Its key objectives are:

- To **reduce logistics costs** to global benchmarks and to **bring it below 10% of GDP,**
- Improve India's ranking in the Logistics Performance Index (LPI) to the **top 25 by 2030,**
- To establish a **robust, data-driven decision support system** to ensure an efficient and integrated logistics ecosystem.

Key Achievements of India's Logistics Sector:

- **The Unified Logistics Interface Platform (ULIP):** It has facilitated secure Application Programming Interface (API) integration across more than 30 digital systems.
- **Ranking in 2023 Logistics Performance Index (LPI): India was ranked 38th place out of 139 nations,** a notable improvement of six places since the last ranking in 2018.
- **The Inland Waterways Authority of India (IWAI)** recorded cargo movement of 145.5 million tonnes in the year 2024–25.

Key Advantages of Efficient Logistics Infrastructure:

- **Supply chain efficiency:** Logistics ensures a smooth and efficient supply chain, minimising delays and reducing lead times.
- **Connectivity and Accessibility:** Logistics networks enhance connectivity and accessibility, linking various regions and markets.
- **Cost reduction and competitiveness:** Efficient logistics operations contribute to cost reduction in transportation, storage, and distribution.
- **Job Creation**: Logistics generates large-scale employment in transport, warehousing, and distribution, with 1 crore new jobs expected by 2027.
- **Economic Integration**: Efficient logistics connects economic zones, ensuring smooth flow of goods and services.

Challenges:

- **High Logistics Cost:** India's logistics cost is very high at around 13–14% of GDP, making Indian exports less competitive compared to global peers.
- **Infrastructure Gaps:** The sector suffers from infrastructure gaps in warehousing, cold storage, and last-mile connectivity.
- **Overdependence on Road:** There is an overdependence on road transport, which causes congestion, delays, and higher transportation costs.
- **Multimodal Transport Issues:** The low share of railways and inland waterways in freight transport hampers the development of an efficient multimodal system.
- **Environmental Concerns:** Heavy dependence on diesel-based trucking increases carbon emissions and contributes to environmental pollution.

Government Initiatives in Logistics

- **PM GatiShakti Master Plan:** To improve ease of living and doing business, while minimizing disruptions and ensuring faster, cost-efficient project completion.
- **Maritime Amrit Kaal Vision 2047:** A revamped Shipbuilding and Ship Repair Policy under formulation to improve domestic capacity.
- **Dedicated Freight Corridors:** Dedicated Freight Corridors (DFCs) cut logistics costs, boost supply chain efficiency, drive growth, and modernize railways.

- **Multi-Modal Logistics Park:** The government has approved 35 Multi-Modal Logistics Parks (MMLPs) are being developed across India by public and private entities to enhance efficiency and cut logistics costs.
- **Unified Logistics Interface Platform (ULIP):** A digital platform integrating logistics data from multiple ministries, with 100 crore API transactions recorded in 2025.
- **Gati Shakti Vishwavidyalaya (GSV):** The GSV is **India's first university** dedicated to transport and logistics education.
- **Sustainability:** The Freight Greenhouse Gas (GHG) Calculator and Rail Green Points help track transportation costs and carbon emissions, promoting sustainable freight practices.

TOURISM SECTOR IN INDIA

India celebrated World Tourism Day 2025, highlighting sustainable tourism and advancing the vision of a Viksit Bharat.

About:

- World Tourism Day, observed annually on **September 27**, is an initiative of the **United Nations World Tourism Organisation** (UNWTO).
- It commemorates the adoption of the **UNWTO statutes** in 1970 and was celebrated for the first time in 1980.
- The **theme for 2025** is "Tourism and Sustainable Transformation."

Status of India's Tourism Sector

- **Contribution in Economy:** India's economy is **$4 trillion**, expected to **reach $32 trillion by 2047.**
  - Tourism contributes 5–6% to India's economy currently.
- **Tourist Footfall:** Till August 2025, India recorded about 56 lakh Foreign Tourist Arrivals (FTAs) and 303.59 crore Domestic Tourist Visits.
- **Global Recognition:** India has **44 UNESCO World Heritage Sites** and a diverse range of cultural and natural attractions.
- **Global Ranking:** According to the World Economic Forum's **Travel and Tourism Development Index 2024**, India ranked **39th** among 119 countries.
- **Leading State and Tourist Attraction: Uttar Pradesh** leads in domestic tourism due to attractions such as the Taj Mahal and Varanasi. The **Taj Mahal** remains India's most visited according to ASI.

Significance of Tourism Sector

- **GDP growth:** Travel and tourism is the largest service industry in India. It contributed ₹15.73 lakh crore to GDP in 2023–24, which was **5.22%** of the total economy.
- **Foreign exchange:** Tourism brought foreign exchange earnings of ₹51,532 crore as of June 2025.
- **Employment:** It generated **36.90 million direct jobs** and **47.72 million indirect jobs**, together accounting for **13.34% of total employment.**
- **Heritage Preservation:** Tourism encourages the restoration and maintenance of historical monuments, temples, forts, and other heritage sites, ensuring their preservation for future generations.
- **Soft Power Diplomacy:** Tourism acts as a powerful instrument of soft power diplomacy by showcasing India's rich culture, art, and history to the world.

Major Challenges associated with Tourism Sector

- **High outbound vs low inbound tourism**: India records far more outbound travellers than inbound visitors, leading to a tourism trade imbalance and loss of foreign exchange potential.
- **Infrastructure bottlenecks**: Limited last-mile connectivity, inadequate facilities, and overcrowding at popular destinations reduce the quality of the tourist experience.
- **Environmental degradation**: Over-tourism in ecologically sensitive areas, such as hill stations and coastal regions, leads to pollution, habitat loss, and resource strain.
- **Safety and hygiene concerns**: Issues of women's safety, scams, sanitation, and cleanliness affect India's global image and discourage foreign tourists.
- **Seasonality:** Many tourist destinations face seasonal fluctuations, with high tourist numbers during peak seasons and low numbers during off-seasons.
- **Global competition**: Despite its cultural and natural wealth, India ranks only 39th in the WEF Travel and Tourism Development Index 2024, highlighting untapped potential compared to global peers.
- **Exchange Rate Volatility:** Since September, the Indian rupee has lost about 3.7% of its value compared to the US dollar, hitting a record lowest.

Government Initiatives

- **Enhancing Connectivity and Investment:** In the 2025 budget, the Finance Minister announced a landmark initiative to develop **50 top tourist destinations** in partnership with states through a challenge mode.
- **Swadesh Darshan Scheme:** In 2014-15, the Ministry of Tourism launched the Swadesh Darshan Scheme (SDS) to develop thematic tourism circuits across the country.
  - 76 projects worth ₹5,290.30 crore were sanctioned under identified themes, of which 75 projects have been physically completed.
- **PRASHAD Scheme:** The Ministry of Tourism launched the Pilgrimage Rejuvenation and Spiritual Heritage Augmentation Drive (PRASHAD) in 2014-15 to improve tourist convenience, accessibility, security, and cleanliness at pilgrimage centres.
- **Dekho Apna Desh Initiative:** The Ministry of Tourism launched the 'Dekho Apna Desh' initiative in 2020 to promote domestic tourism in the country.
- **Special Assistance to the States for Capital Investment (SASCI):** To develop an iconic tourist centre on a global scale, the SASCI scheme was launched by the Ministry of Tourism in July 2025.
- **Other reforms:** The introduction of e-Visa Facility, GST Reduction, RCS-UDAN, IITF Certification Program, NIDHI+, etc.
- **Medical Value Travel Summits:** Organized by the **Ministry of Ayush** to foster collaboration between states, hospitals, and industry leaders.

REPORT ON PUBLIC DEBT

The Comptroller and Auditor General (CAG) of India's decadal report shows India's 28 states have seen a sharp rise in public debt over the past 10 years.

Key Findings of the Report:

- **Debt-to-GDP Ratio:** Measures a country's public debt as a percentage of its Gross Domestic Product (GDP).
  - It indicates its ability to repay debt.
- **Public Debt (National Debt):** Total borrowing by the government and public sector owed to the private sector and foreign entities including central and state government debt, excluding inter-governmental liabilities.
- **Debt Growth:** States' combined public debt trebled from **₹17.57 lakh crore** in 2013-14 to **₹59.60 lakh crore** in 2022-23. As a share of GSDP, debt rose from 16.66% (2013-14) to 22.96% (2022-23). In FY 2022-23, states' total debt was **22.17%** of India's GDP.
- **State-wise Debt-to-GSDP Ratios (2022-23):**
  - **Highest:** Punjab (40.35%), Nagaland (37.15%), West Bengal (33.70%).
  - **Lowest:** Odisha (8.45%), Maharashtra (14.64%), Gujarat (16.37%).
  - 8 states recorded debt over 30% of GSDP, while 6 states had debt under 20%.
- **Debt and Revenue Receipts:** States' debt stood at **128–191%** of revenue receipts in the past decade.
  - On average, debt equaled **150%** of revenue receipts / non-debt receipts.

Reasons for Higher Debt Burden:

- **Competitive Populism:** States like Punjab, Rajasthan, Himachal Pradesh have adopted costly welfare schemes, aggravating fiscal stress.
- **Impact of COVID-19:** Debt-to-GSDP ratio jumped from 21% (2019-20) to 25% (2020-21) due to contraction in GSDP and additional borrowings.
- **Dependence on GST:** After GST rollout, states lost independent taxation powers (like octroi, entry tax). GST compensation ended in June 2022, creating a gap.
- **Borrowing for Current Expenditure**: The report flagged a breach of the **'golden rule'** of borrowing, which says governments should raise debt only for investment, not to fund operating costs.
  - CAG found in 11 states Punjab, Tamil Nadu, West Bengal, Andhra Pradesh, etc.

Major Concerns:

- **Crowding Out:** Large SDL borrowings push up interest rates, raising borrowing costs for private firms.
- **Inflationary Pressures:** Excessive debt-fueled spending can fuel inflation, especially when directed at consumption subsidies.
- **Interest & Debt Servicing Pressure:** Rising share of market borrowings (SDLs) at high interest rates increases repayment burden.
- **Centre-State Fiscal Balance:** Central government's own debt (~57% of GDP in FY24) along with rising state debt (~23% of GDP) push India's general government debt to ~80% of GDP, much higher than the 60% target under FRBM Review Committee.

Comptroller and Auditor General of India (CAG)

- The CAG is the **supreme audit authority of India,** responsible for auditing government accounts and ensuring accountability in public finance management.
  - **Articles 148 to 151** of the Indian Constitution provide the framework for the appointment, duties, and reporting structure of the CAG.
- **The Comptroller and Auditor General's (Duties, Powers and Conditions of Service) Act, 1971:** Determines the CAG's service conditions and prescribes the duties and powers of their office.
- **Vision:** To deliver independent, credible assurance on public resources and be a global leader in public sector auditing.
- **Mission:** Ensure transparency and accountability by auditing public funds and confirming their effective use.
- **Core Values:**
  - **Institutional:** Professionalism, objectivity, independence, transparency
  - **People:** Integrity, ethics, competence, fairness, social awareness

Way Forward:

- **Fiscal Discipline:** Borrow only for productive capital, not for routine expenses.
- **Debt Management:** Monitor, restructure, and refinance debt using low-cost instruments like NSSF, Green Bonds, and Infrastructure Bonds.
- **Revenue Mobilization:** Expand the tax base, diversify revenue sources, and enhance collection efficiency.
- **Expenditure Rationalization:** Prioritize capital spending and reduce discretionary expenditures.
- **Promoting Investment:** Encourage PPPs and FDI in key sectors to reduce the fiscal burden.
- **Contingency Planning:** Establish rainy-day funds to handle economic or natural shocks.
- **Central-State Fiscal Cooperation:** Ensure timely GST compensation and adequate fiscal transfers.

MINERAL EXPLORATION DRILLING ON FOREST LAND

The Union Environment Ministry's Forest Advisory Committee (FAC) has approved enhanced exemptions for mineral exploration drilling in forest areas.

Background:

- The Forest Conservation Act, 1980, was amended in 2023 to allow drilling for exploration on forest land.
- **Critical minerals:** They are essential for a country's economic development and national security, and their lack of availability or concentration in a few geographical locations can lead to supply chain vulnerabilities.

Major Provision:

- **Borehole:** The Ministry will allow 62–80 boreholes (6-inch diameter) per 10 sq km for mineral exploration under exemption.
- **Earlier Rule:** Forest law permitted only 25 boreholes/10 sq km + 80 shot holes/sq km + felling of 100 trees without forest clearance.
- This drilling involves deep, narrow holes to explore minerals, ores, oil, or gas. Minerals that are necessary for clean energy and defense, such as nickel, cobalt, and lithium.

Environmental Safeguards:

- **Limited Working Hours:** Drilling allowed only between **9 a.m. and 5:30 p.m**. to align with wildlife activity cycles.
- **Risks:** noise disturbance, altered wildlife movement, water abstraction from streams, oil/grease.
  - discharge → impact on aquatic species.
- **Site Restoration:** Boreholes must be plugged with cement after completion.
- **Restriction Zones:** No drilling in ecologically sensitive areas such as:
  - Critical wildlife breeding and nesting habitats.
  - Water sources and riparian ecosystems.
  - High-biodiversity patches
  - Areas with endangered/endemic species
  - Culturally or religiously significant forest sites

Objectives of Mineral Exploration:

- **Critical minerals push:** Many critical minerals (e.g. rare earths, lithium, cobalt, nickel) crucial for clean energy and defence are found in forest regions.
- **Ease of Doing Business:** Removes delays caused by repeated central clearances for temporary surveys.
  - Encourages private sector participation and investment in mining exploration.
- **Support for economic growth:** Minerals feed into infrastructure, manufacturing, defence, and green technologies.
  - Faster exploration leads to quicker project development, cost efficiency and attracts investment in mineral exploration.

Concerns Related to Drilling:

- **Environmental impacts:** Drilling activities, along with noise and vibrations, can disturb wildlife movement patterns.
- **Overlap with Forest Rights Act (FRA), 2006:** The Act recognises the legal rights of forest-dwelling Scheduled Tribes (STs) and other traditional forest dwellers (OTFDs).
- **Escaped Forest Conservation Act (FCA), 1980 scrutiny:** Earlier, FCA required central approval for any non-conservation activity on forest land. The reclassification of mineral exploration as a "forest activity" has raised concerns.

Usage of Critical Minerals:

- **Solar energy:** Minerals like silicon, tellurium, indium, and gallium are essential for solar panels, and India's 64 GW solar power depends on them.
- **Wind energy:** Minerals like dysprosium and neodymium are vital for wind turbine magnets, as India plans to raise wind power from 42 GW to 140 GW by 2030.
- **Energy storage:** Under the National Electric Mobility Mission Plan (NEMMP), **Lithium, nickel, and cobalt** are key materials used in lithium-ion batteries.

Govt. Initiative for Critical Minerals:

- **National Critical Mineral Mission (NCMM):** It aims to secure critical minerals through domestic and foreign sources, while boosting technology, policy, finance, and skills for mining, processing, and recycling.
- **KABIL (Khanij Bidesh India Ltd)** signed an agreement with **CAMYEN SE**, a state-owned enterprise in Catamarca, Argentina, on **15th Jan. 2024** for lithium exploration covering **15,703 hectares.**
- **IREL (India) Limited:** In the role of running Rare Earth Extraction and Refining Units and processing minerals from beach sand.

Way Forward:

- **Strict Enforcement of Conditions:** Ensure boreholes are temporary, cement-plugged, restored, and independently monitored; minimize environmental impact through low-powered drilling.
- **Adopt Advanced Exploration Technology:** Utilize remote sensing, ground-penetrating radar, drones, and geophysical imaging.
- **Strengthen Ecological Safeguards:** Identify and protect no-go zones like hotspots, breeding sites, and sacred groves with strict enforcement.
- **Improve Compensatory Mechanisms:** Conduct compensatory afforestation with native species, long-term monitoring, and biodiversity protection beyond mere tree counts.

DECARBONISATION IN INDIA

A Centre for Social and Economic Progress (CSEP) study by Janak Raj & Rakesh Mohan estimates India needs $467 billion by 2030 to decarbonise power, steel, cement, and road transport.

Key Highlights of Study:

- The process of reducing or eliminating Carbon Dioxide (CO_2) and greenhouse gas emissions from energy, industry, and transport systems.
- **Emission Impact:** Power, steel, cement decarbonisation could avoid 6.9 billion tonnes CO_2 by 2030.
- **Comparison:** Lower than earlier trillion-dollar estimates; considered feasible via domestic + private sector financing.
- **Macroeconomic Check:** Can be absorbed without harming competitiveness or inflation.

About Decarbonisation:

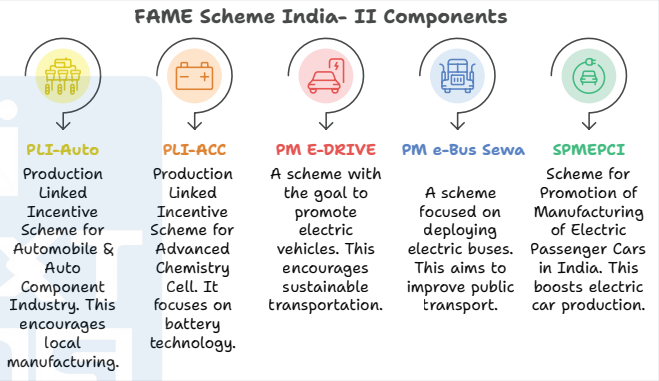
- Decarbonisation is the process under which carbon dioxide emissions (or its equivalents) are reduced to achieve a lower output of greenhouse gasses.
- As per the Paris Agreement, reducing the amount of carbon dioxide from transport and power generation is essential to meet global temperature standards.
- This process involves using renewable energy sources like wind, solar, and biomass.

Associated Challenges:

- **Environmental imperative:** Over 70% of electricity still comes from coal; phasing it out requires massive renewable scale-up.
- **Technology Gaps:** Green hydrogen, CCS (carbon capture and storage), and battery storage remain costly and underdeveloped.
- **Regulatory Fragmentation:** Overlapping mandates between central and state agencies slow implementation.
- **Financing needs:** India needs an estimated $467 billion by 2030 to decarbonize its four biggest emission sectors:
  - Steel and cement—among the hardest to decarbonise—require the bulk of this investment ($251B and $141B respectively), primarily for technologies like carbon capture and storage.
  - The power sector, already transitioning to renewables, needs $47B, while road transport requires $18B.
- Millions employed in fossil fuel sectors need reskilling and social protection.

Government Initiatives for Decarbonisation:

- **National Wind-Solar Hybrid Policy (2018):** Promotes large grid-connected hybrid systems to optimise wind-solar use, transmission, land, and encourage new technologies.
- **PM-KUSUM and PM Surya Ghar,** which have empowered farmers and households with solar energy.
- **Green Energy Corridors (GEC):** Build intra-state transmission for renewable energy, with CFA support across 10 states in two phases.
- **National Green Hydrogen Mission:** Aims to make India a global hub by producing 5 MMT green hydrogen/year by 2030 through demand creation, SIGHT incentives, pilot projects.
- **FAME Scheme India**: Launched by Dept. of Heavy Industry to promote electric & hybrid vehicles and ensure their sustainable growth.



- **Carbon Credit Trading Scheme:** The government is developing the Indian Carbon Market (ICM) to decarbonise the economy by trading Carbon Credit Certificates, led by BEE (Ministry of Power) with MoEFCC.
- **Sovereign Green Bonds (SGBs):** Government debt securities that raise funds for projects with environmental benefits like renewable energy.
- **Green India Mission (GIM):** Part of NAPCC, aims to protect, restore, and expand forests and tackle climate change through eco-restoration with Joint Forest Management Committees (JFMCs).

Global Initiative:

- **Kyoto Protocol (1997):** First binding treaty, set emission reduction targets for developed countries.
- **Paris Agreement:** Limit warming to below 2°C, pursue 1.5°C, through NDCs.
- **Glasgow Climate Pact:** Reaffirm 1.5°C, phase down coal, cut methane.
- **Kigali Amendment to Montreal Protocol:** Phase down HFCs to avoid 0.5°C warming.
- **G7/G20 Declarations:** Commit to Net Zero by mid-century and phasing out fossil fuel subsidies.

STUBBLE-BURNING

The Supreme Court proposed criminal prosecution for stubble burning, but the Centre opposed, preferring a supportive persuasion policy for farmers.

About:

- Stubble (parali) burning is a method of removing paddy crop residues from the field to sow wheat.
- It is a process of setting on fire the straw stubble, left after the harvesting of grains, like paddy, etc.
- Paddy stubble burning is practised mainly in the Indo-Gangetic plains of Punjab, Haryana, and UP to clear the fields for rabi crop sowing.
- The paddy crop is harvested between the first and last weeks of October in Punjab and Haryana.

Causes

- The major reason behind the stubble burning is the short time available between rice harvesting and sowing of wheat as delay in sowing wheat affects the wheat crop.
- Stubble burning is considered one of the cheapest methods to clean the field after the harvesting season.

Impacts

- **Pollution:** Stubble burning emits toxic pollutants in the atmosphere containing harmful gases like Carbon Monoxide (CO), methane (CH4), carcinogenic polycyclic aromatic hydrocarbons, Volatile Organic Compounds (VOC).
  - These pollutants disperse in the surroundings and eventually affect air quality and people's health by forming a thick blanket of smog.
- **Soil fertility:** Soil becomes less fertile and its nutrients are destroyed when the husk is burned on the ground
- **Heat penetration:** Stubble burning generates heat that penetrates into the soil, causing an increase in erosion, loss of useful microbes and moisture.

Challenges in Controlling Stubble Burning:

- **Technical & Infrastructure:** Harvesters leave stubble, limited storage and hiring centers, machinery wear from high-silica straw, and a short 15–20 day harvest-to-sowing window.
- **Regulatory & Administrative:** Ambiguous definitions, unclear RED ENTRY procedures, lack of exit provisions, and weak coordination between ministries and states.
- **Financial & Economic:** Limited subsidies for machinery and weak frameworks for utilizing environmental compensation funds.
- **Socioeconomic & Awareness:** Limited training on sustainable alternatives and an imbalance between penalties and incentives.

Judiciary Interpretation:

- Chief Justice B.R. Gavai suggested reintroducing criminal prosecution or creating a new law to deter the practice, arguing that some strict action is needed to send a strong message.
- The court stated that farmers deserve respect, they must also take responsibility for environmental protection.
- It suggested the central government create a uniform policy involving all states and it may issue a mandamus (legal order).

Related Steps in India

- The Department of Agriculture and Farmers Welfare (DA&FW) has been implementing the **Crop Residue Management Scheme** since 2018-19 to curb stubble burning in **Punjab, Haryana, Uttar Pradesh, and Delhi** by promoting both in-situ and ex-situ solutions.
  - Under the scheme, **financial assistance of 50%** is provided to farmers for purchasing crop residue management machinery, and **80% to rural entrepreneurs,** FPOs, cooperatives, and panchayats for setting up Custom Hiring Centres (CHCs).
  - It also supports **65% of the capital cost (up to ₹1.5 crore)** for establishing paddy straw supply chains for biomass and biofuel industries.
- **Indian Space Research Organisation (ISRO)** has developed standard protocols for monitoring stubble burning.
  - **The Commission for Air Quality Management (CAQM)** has issued various directives to states and power plants for both in-situ and ex-situ straw management.
- **Financial support mechanisms:** Small and marginal farmers are eligible for financial assistance for the purchase of agricultural machinery and equipment from the Sub-Mission on Agriculture Mechanization (SMAM).

Way Forward:

- **Financial Framework & Support:** Introduce MSP-like system for stubble, annually review benchmark prices, and ensure returns cover labor and machinery costs.
- **Technical & Infrastructure:** Use real-time crop mapping, set up interim storage, and build local supply chains with entrepreneur and aggregator support.
- **Regulatory & Administrative:** Appoint grievance authority, amend rules for clarity, link Red Entry removal to incentives, and ensure transparent use of compensation funds.
- **Agricultural Practices:** Promote short-duration paddy varieties, standardize procurement, and ban uncertified/problematic seeds.
- **Policy Integration:** Form a unified national policy to channel agri-residue into bioethanol, biogas, and biomass pellet energy solutions.

SUPREME COURT CALLS FOR NATIONWIDE FIRECRACKER POLICY

The Supreme Court observed that the ban on firecrackers should not be limited to Delhi-NCR and emphasised that people across India have an equal right to breathe clean air.

Background:

- In April 2025, the Court confirmed a complete ban on sale, production, and manufacture of firecrackers in Delhi-NCR.
- It had noted that only **"green crackers"** producing minimum pollution might be reconsidered.
- The Court has now sought a report from the **Commission for Air Quality Management (CAQM)** and will review the matter again in two weeks.

Key Observations:

- If firecrackers are to be banned, it must be done on a **pan-India basis**.
- **Air pollution is not confined to the capital**; several other cities face even worse conditions during festivals and winter months.
- Citizens in all parts of the country should be protected, not only those in Delhi.

Concerns Highlighted:

- **Livelihoods**: A large number of poor workers depend on the firecracker industry, and their situation must be considered before framing any national policy.
  - The livelihood argument is clouded by child labor, with children as young as five working in hazardous conditions, violating the 2016 Child Labour Act.
- **Shadow firecrackers market:** Regional bans have spurred a black market, with crackers smuggled into Delhi from nearby areas. A uniform nationwide ban is needed to curb illegal trade and ensure effective enforcement.
- **Health impact**: The misconception that pollution affects only the elite was countered, stressing that ordinary people, especially those on the streets, are the worst affected.
- **Industry concerns**: Licences for firecracker production valid till 2028 are being cancelled following the blanket ban in Delhi-NCR earlier this year.

Differences in Implementation across Regions:

- India has a fragmented system of firecracker ban laws that varies significantly between regions and urban areas:
  - **Delhi-NCR:** Enforces the most restrictive action in the country by prohibiting all firecrackers for an entire year.
  - **Bengaluru:** Provides a balanced strategy by allowing only "green crackers" between 8 and 10 PM during festivals.
  - **Chennai:** Permits the use of firecrackers on Diwali during specified periods (6-7 AM and 7-8 PM).
  - **West Bengal:** Maintains a strict ban that is claimed to be successfully enforced.

Govt. Stand and Policy on Firecrackers:

Legal Framework:

- **The Explosives Act, 1884:**
  - **Section 5:** Power to make rules as to licensing of the manufacture, possession, use, sale, transport and import and export of explosives.
- **Environment (Protection) Act, 1986:**
  - **Under section 3(3):** Empowers the Centre to prevent pollution and tackle regional environmental issues.
- States must frame firecracker rules per **Supreme Court** and **NGT** guidelines, banning certain crackers, limiting bursting hours, and ensuring enforcement in polluted areas.

Towards Nationwide Policy Framework:

- **Policy enforcement challenges:** A nationwide firecracker ban requires strong enforcement, better monitoring, and addressing all major pollution sources.
- **Green cracker awareness:** The National Environmental Engineering Research Institute **(**NEERI) and CSIR developed green crackers that cut emissions by 30–40%.
  - The government urges states to allow only green crackers and restrict bursting hours.
- **Innovation in Firecrackers:** Promote non-polluting alternatives like e-crackers, LED displays, and drone shows with government incentives to preserve culture and protect health and the environment.
- **Socioeconomic Rehabilitation:** Implement programs for green tech transition, alternative livelihoods, child labor education, and financial aid to support workers during the shift.

About Firecrackers:

- A firecracker is a small explosive made to produce a loud bang for celebrations, with a fuse and a paper casing holding the explosive.
- The several primary elements of a firecracker generally consist of fuel, oxidizer, coloring agents, and binder.

Colour	Chemical Compound	Impact on Health
Blazing Reds	Lithium compounds	Toxic, irritating fumes when burnt
Glittering Greens	Barium nitrate	Can irritate respiratory tract; may cause possible radioactive fallout
Brilliant Whites	Aluminium	Causes contact dermatitis; bioaccumulation
Blues	Copper compounds	Cancer risk; bioaccumulation

THE CHEMISTRY OF FIREWORK POLLUTION

Fireworks displays can be spectacular, but they can also have some negative effects on the environment. Here we take a look at some of the issues.

PARTICULATE MATTER

PM_{10} — Particulate matter 10 micrometres or less in diameter

$PM_{2.5}$ — Particulate matter 2.5 micrometres or less in diameter

Fireworks produce a lot of very small particles, which can remain suspended in the air for some time after the display. This significantly increases the concentration of particulate matter in the air. Inhalation of these particles can have adverse effects on the respiratory and cardiovascular systems.

METALS

Sr Ba Cu
Ca Na Mg

COLOURS

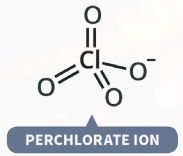
Pb Cr Sb

OTHER METALS

Note: Lead (Pb) and chromium (Cr) are both banned in fireworks in the US and UK, but can still be found in some imported fireworks.

Metal compounds give fireworks their vivid colours and can also be present in oxidiser or mixtures. These metals persist in the environment. Small particles of toxic metals such as lead, chromium and antimony show increases in atmospheric concentrations in the days after fireworks displays.

PERCHLORATE POLLUTION



PERCHLORATE ION

Perchlorate concentration increase after a firework display in Albany, New York

Source: Fate of perchlorate in a man-made reflecting pond following a fireworks display in Albany, New York, USA, Qian Wu and others, 2011, Environmental Toxicology and Chemistry 30, 11, 2449-2455.

Perchlorate compounds are used as oxidisers in some fireworks to aid the combustion reaction. These perchlorates can contaminate bodies of water near firework displays. Elevated concentrations of perchlorate in water can affect wildlife and it may also affect human health if it contaminates drinking water.

POLLUTING GASES

Fireworks lead to elevated levels of well-known polluting gases in the atmosphere. These gases include nitrogen dioxide and sulfur dioxide, which can cause respiratory problems, or exacerbate existing health problems such as asthma. They can also react in the atmosphere to form particulate matter.

GREEN CRACKER

Green crackers use safer chemicals that emit fewer pollutants and release water vapour, reducing air pollution compared to regular firecrackers.

Green crackers were developed through research by Council of Scientific and Industrial Research (CSIR) labs, including Central Electro Chemical Research Institute (CECRI), Indian Institute of Chemical Technology (IICT), National Botanical Research Institute (NBRI), and National Chemical Laboratory (NCL).

TYPES OF GREEN CRACKERS

SWAS (Safe Water Releaser): Releases water vapour to cut dust by ~30%; free of potassium nitrate and sulphur.

STAR (Safe Thermite Cracker): No potassium nitrate or sulphur; emits less particulate matter and noise.

SAFAL (Safe Minimal Aluminium): Uses minimal aluminium, replaces it with magnesium; reduces sound levels.

URBANIZATION AND ITS CHALLENGES

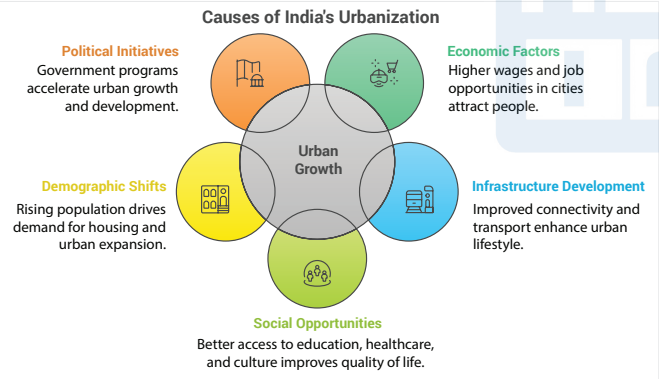
Kerala, urbanizing faster than the national average with a projected urban population of over 80% by 2050, set up the Kerala Urban Policy Commission (KUPC) to develop a 25-year urban roadmap.

About Urbanization:

- Urbanization is a complex, dynamic process in which populations shift from rural to urban areas, significantly altering land use, economic patterns, and social structures.
- In the 2011 Census, an urban unit was defined as either a statutory town or a census town.

Types of Urban Settlements:

- **Statutory Towns:** Notified by State governments; governed by urban local bodies (municipal corporations, councils, nagar panchayats).
- **Census Towns:** Remain administratively rural, but they function like urban areas. It satisfies the following criteria;
  - A minimum population of at least 5,000.
  - At least 75% of the male main working population engaged in non- agricultural activities
  - Density of 400 persons per sq. km or more.
- **Satellite town:** A town that is dependent on a larger urban area for its economic and social affairs and is located nearby its boundaries.



Issues associated with Urbanization:

- **Excessive Population Pressure:** Rapid rural-urban migration strains public utilities, leading to slums, unemployment, crime, pollution, traffic, and health issues.
- **Social Discrimination:** Ethnic minorities, religious groups, and lower castes face prejudice in jobs, housing, and public services.
- **Ghettoization:** Segregated neighborhoods emerge based on caste, religion, or class, forcing marginalized groups to live in overcrowded, poorly maintained slums like Dharavi in Mumbai.
- **Lack of Autonomy:** Urban local Bodies (ULBs) have limited decision-making power and rely on state governments for finances and administration, restricting their responsiveness to citizens' needs.
- **Lack of Capacity:** Many ULBs cannot effectively plan, implement, or monitor development projects, leading to inefficiencies and resource wastage.
- **Urban Heat Island & Green Space Loss:** Rapid urbanization reduces green cover, raising temperatures and energy demand.
  - ***Example:*** Delhi's May 2024 heatwave pushed power demand above 8,000 MW.
- **Water Scarcity & Poor Management:** Fast urban growth and falling groundwater levels create severe water shortages.
  - ***Examples:*** Delhi (2024), Chennai (2019), and Bengaluru faced crises, relying on tankers and desalination.

Government Initiatives:

- **Urban Planning:** A State subject under the 12th Schedule, supported financially and technically by the Centre, implemented by State Town Planning Departments and Urban Development Authorities.
- The Ministry of Housing and Urban Affairs, Government of India has been taking several initiatives for promoting growth and sustainability in the urban sector.
  - **Swachh Bharat Mission:** Promotes safe sanitation, waste segregation, door-to-door collection, and processing.
  - **Smart Cities Mission:** Develops cities with core infrastructure, clean environment, quality of life, and replicable smart solutions.
  - **PM SVANidhi:** Provides affordable micro-credit loans to street vendors.
  - **Pradhan Mantri Awas Yojana (Urban):** Ensures pucca housing for EWS/LIG/MIG families and slum dwellers.
  - **HRIDAY:** Preserves cultural heritage and boosts tourism in 12 selected cities.
  - **AMRUT:** Develops basic urban infrastructure water, sewerage, storm drainage, green spaces, non-motorized transport and includes urban reforms and capacity building.

Structure of Urban Local Governance:

- **Municipal Corporations:**
  - Manage metropolitan cities with populations over one million. Governed by a Mayor-in-Council system.
- **Municipal Councils:** Administer smaller cities (below one million population) under a President-in-Council system.
- **Nagar Panchayats:** Govern transitional towns (below 1 lakh population) through a Chairperson-in-Council system.
- **Special-Purpose Bodies:** Include Port Trusts, Industrial Development Authorities, Townships, and Cantonment Boards for specific urban functions.

Constitutional and Legal Provisions:

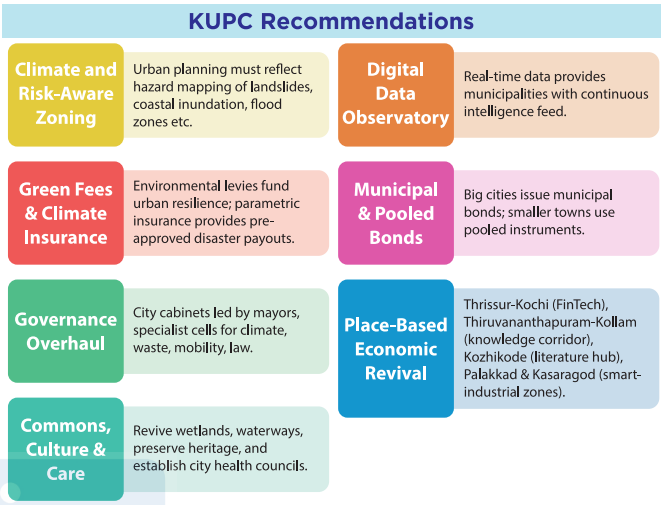
- 74th Constitutional Amendment Act, 1992 formally recognized urban local bodies as the third tier of government in India.
- **Part IXA & 12th Schedule, Constitution of India:** Provides for the establishment, composition, and functions of municipalities at district and metropolitan levels.
- **State Municipal Acts:** Each state enacts its own Municipal Act, detailing structure, powers, functions, administration, and finance of ULBs.

India's Global Responsibilities:

- **SDGs Goal:** promote urban planning and achieving under SDG Goal 11 Make cities and human settlements inclusive, safe, resilient and sustainable.
- **UN-Habitat's New Urban Agenda:**
  - It was accepted in 2016, Habitat III adopted it.
  - It defines standards for urban planning, development, construction, management, and development.
- **UN-Habitat:**
  - Introduces the concept of spatial sustainability.
  - It suggests that a city's spatial conditions may boost its ability for generating environmental, social, and economic value and overall well-being.

Way Forward:

- **Like Kerala urbanization model:** As urbanization and climate challenges strain Kerala's blended rural-urban landscape, the state formed the Kerala Urban Policy Commission to develop a comprehensive urban strategy.
- **KUPC Model:**
  - It was constituted in December of 2023 to address the issues of rapid urbanization and climate change in Kerala, the Kerala Urban Policy Commission (KUPC) is the country's first state-level urban commission.
  - Its objective was to draw up a thorough 25-year urban plan that considered Kerala's distinct social, economic, geographical, and weather conditions.



Other Suggestion:

- **National Urban Development Authority (NUDA):** Strengthen local urban bodies in planning, development, and management; monitor urban growth nationally.
- **Sustainable Urbanization:** Effective city growth management is key for sustainable development, especially in low- and middle-income countries.
- **Public-Private Partnerships (PPP):** Encourage private investment in infrastructure through supportive policies and legislative reforms.

CASE STUDY: Copenhagen: Smart & Zero-Carbon City by 2025:

About:

- Copenhagen, a smart city, aims to be the world's first CO2-neutral capital by 2025.
- Known for its green spaces, bike lanes, safety, quality of life, and smart infrastructure, it blends modern and classic architecture.
  - Aims to be the world's first CO2-neutral capital by 2025.
  - **Population:** ~1.3 million, with growing demographic and industrial demands.
  - Recognized for high quality of life, safety, green spaces, and smart infrastructure.

CPH 2025 Climate Plan: Key Pillars:

- **Energy Consumption & Production:**
  - Focus on reducing energy use and generating **renewable energy** (wind, geothermal).
  - Investments shared between energy companies and the municipality via **loans and support.**
- **Green Mobility:**
  - **Bicycle-friendly city:** Most trips 20 min by bike.
  - **Electric public transport:** Driverless subways, electric buses, and commuter trains allow bicycles.
  - **Goal:** By 2025, 75% of trips by bike, foot, or public transport.
  - Promotion of electric, hydrogen, and biofuel vehicles.
- **Municipality as a Climate Leader:**
  - Regulates city operations, street lighting, buildings, and employee practices.
  - Focus on training and environmental education for employees.
- Drives investments for a sustainable, intelligent city.

DOMESTIC VIOLENCE ACT

The Protection of Women from Domestic Violence Act, 2005 (PWDVA) stands as a symbol of empowerment after two decades of enactment.

About:

- It is defined as **any act, omission, or conduct** by a person that **harms or endangers** the health, safety, life, limb, or well-being of a woman — whether physical or mental ***(Section 3 of the PWDVA).*** It includes:
  - Physical abuse, verbal & emotional Abuse & economic Abuse.
- According to the **United Nations (UN),** domestic violence is a form of **gender-based violence that occurs within the private sphere** — typically between individuals related by intimacy or blood. It encompasses:
  - **Intimate Partner Violence:** Physical, sexual, or psychological harm by a current or former partner.
  - **Child & Elder Abuse**: Within the household
  - **Economic & Psychological Control:** Restricting access to money, isolating from social networks, or using intimidation.

Key Reasons for Domestic Violence:

- **Patriarchal Norms & Gender Inequality:** Deep-rooted patriarchal traditions view women as subordinate to men. Cultural acceptance of male dominance perpetuates violence.
- **Dowry-Related Conflicts:** Persistent dowry demands often escalate into harassment and violence.
  - Linked with economic control and status assertion.
- **Economic Dependence & Poverty:** Women's financial dependence reduces ability to leave abusive relationships.
  - Poverty and unemployment increase household stress and violence.
- **Weak Legal & Institutional Support:** Delayed justice delivery, lack of shelters, and weak enforcement etc discourage reporting.
  - **Cultural Silence & Social Stigma:** Fear of dishonor, family reputation, and victim-blaming silence survivors.
- **Intergenerational Cycle of Violence:** Children witnessing violence normalize abusive behavior in adulthood.

Global Efforts to Combat Domestic Violence:

- **UNiTE Campaign by UN Women**: The "16 Days of Activism Against Gender-Based Violence" is an annual global campaign running from November 25 (International Day for the Elimination of Violence Against Women) to December 10 (Human Rights Day).
- **Spotlight Initiative:**
  - It has helped enhance or adopt over 550 laws and policies worldwide to address violence against women.
  - It has provided essential services to over 3 million women, including education, legal aid, and psychosocial support.
- More than 95% of institutional mechanisms for domestic and intimate partner violence were established after the adoption of the **Beijing Platform for Action 1995.**

India's Efforts to Address Domestic Violence

- **Protection of Women from Domestic Violence Act, 2005:** It was enacted to safeguard the fundamental rights of women under **Articles 14, 15, and 21** of the Constitution of India.
  - It provides a **civil law remedy** to protect women from domestic violence and prevent its recurrence in society.
  - **Section 18:** Protection Order in each district to assist Magistrates, report complaints, and facilitate legal remedies such as **protection orders** and **residence orders**.
  - **Section 19:** Residence Order for residing at Matrimonial House;
  - **Section 20:** Monetary Orders which includes maintenance for herself and her Children;
  - **Section 21:** Temporary Custody of Children;
  - **Section 22:** Compensation order for the damages caused to her.
- **Mission Shakti & One Stop Centres (OSCs):** These provide integrated support—medical aid, legal assistance, shelter, and counseling—to women in distress across India.
  - **802 centres are functional** nationwide.
  - Assisted **10.80 lakh women** till **31st January 2025**.
- **Emergency Response Systems:**
  - **ERSS-112:** A nationwide emergency helpline for women, integrated with police dispatch systems.
  - **Women Helpline 181:** Operational in 35 states/UTs, handling over 2.10 crore calls and assisting more than 84 lakh women.
- **National Dashboard:** Developed by C-DAC to track helpline calls and categorize domestic violence cases in real time.
- **Role of Direct Benefit Transfer (DBT):** DBT schemes like Jan Dhan Yojana, PM Ujjwala Yojana, and PM Matru Vandana Yojana provide direct cash transfers, LPG connections, and maternity benefits.
  - **Financial independence** reduces women's vulnerability to economic abuse – a common form of domestic violence.

Way Forward

- **Education and Awareness:** Teaching consent, respect, and gender equality from a young age;
- **Stronger Enforcement:** Dedicated protection officers and fast-track courts;
- **Community Support:** Safe shelters, helplines, and survivor networks;
- **Men as Allies:** Engaging boys and men in prevention efforts.

1 POLITY & GOVERNANCE

SC's OBSERVATIONS ON GOVERNOR's ASSENT TO BILLS

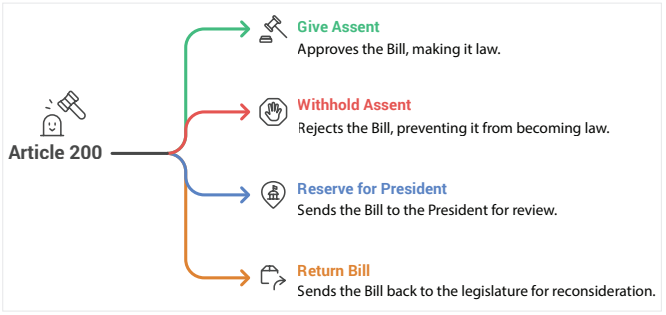
The Supreme Court Presidential Reference Bench (2025) is examining whether Governors and the President can indefinitely delay giving assent to Bills.

Background:

- In **April 2024**, the Supreme Court, in a case concerning Tamil Nadu, set a **three-month deadline** for Governors to decide on Bills.
- If no action was taken within that period, the Bills would be considered as having **"deemed assent."**
- In **May 2025**, a Presidential Reference was made to clarify whether the Supreme Court can impose such general time limits.

Supreme Court's Observations

- **No endless delay:** Governors cannot keep Bills pending indefinitely, as this obstructs the legislature's functioning and undermines the Constitution.
- **Act with urgency:** The Constitution expects Governors to act without unnecessary delay. Justice Narasimha stated that "no organ can impair the functioning of the Constitution."
- **Limits on power:** Granting Governors unlimited power to withhold assent under **Article 200** would lead to ***"absurd results"*** and weaken federalism.



- **On deadlines:** The Court debated whether it can impose a **general three-month deadline** (as in the Tamil Nadu case) or only set timelines in specific cases.
- **On deemed assent:** Justice Vikram Nath questioned why only ***"deemed assent"*** was considered after three months, and not other constitutional options like **withholding assent** or **reserving the Bill for the President**.
- **Judicial restraint:** Chief Justice B.R. Gavai cautioned that fixing a blanket timeline for all cases could appear as judicial overreach.
- **Widespread problem:**
  - The Court acknowledged that delays by Governors are ***"common and repetitive,"*** especially in States like **Tamil Nadu and Kerala**.

> Governor cannot sit over the wisdom of the legislature indefinitely.
>
> **JUSTICE VIKRAM NATH**
> **Supreme Court judge**

> No organ can impair the functioning of the Constitution.
>
> **JUSTICE P.S. NARASIMHA**
> **Supreme Court judge**

CENSUS 2027: INDIA'S FIRST DIGITAL CENSUS

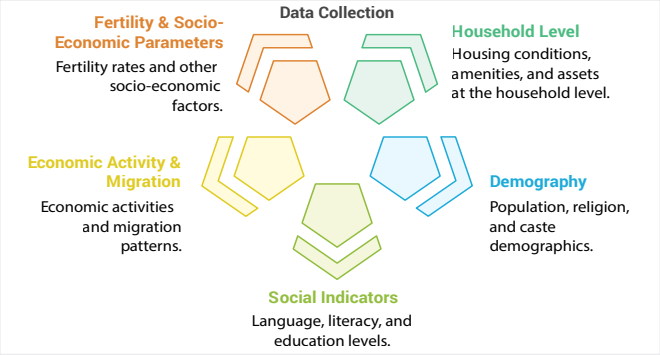
The Registrar General of India (RGI) has requested a budget of ₹ 14,618.95 crore for Census 2027, which will be India's first fully digital and caste-inclusive census.

Historical Background:

- India has been conducting a **decennial Census since 1872**, maintaining an unbroken tradition.
- The upcoming **Census 2027** will be the **16th census overall** and the **8th since Independence**.

Key Features of Census 2027

- **Timeline:**
  - **House-listing operations** will take place from **April to September 2026**.
  - **Population enumeration** will be held in **February 2027** across India, except in **Ladakh, Jammu & Kashmir, Himachal Pradesh, and Uttarakhand**, where it will be conducted in **September 2026**.
- **Digital Census:**
  - Data will be collected using dedicated mobile applications.
  - Citizens will have the option of **self-enumeration**.
  - **Caste details** will be recorded electronically.
  - A new Census Monitoring & Management System website will enable real-time tracking.



Other Key Firsts in Census 2027

- Citizens will have the option of self-enumeration.
- Caste enumeration for individual castes for the first time since 1931.
- All buildings across India will be geotagged for the first time.

IMMIGRATION AND FOREIGNERS RULES, 2025

The Union Home Ministry (MHA) has notified the Immigration and Foreigners Rules, 2025, giving the Bureau of Immigration (BOI) statutory authority for the first time.

Key Features of the 2025 Rules

- **BOI's Legal Role:**
  - The Bureau of Immigration (BOI) can now examine immigration fraud cases.
  - It has the power to identify, deport, or restrict the movement of foreigners.
  - It will maintain a central national immigration database.
  - It will also coordinate with State governments and security agencies.
- **Biometric Data:** The rules make it **mandatory to collect biometrics of all foreigners**, whereas earlier this was limited to certain visa categories.
- **Foreign Students:** Educational institutions must report to the FRRO on the **semester-wise academic performance, attendance, and general conduct** of foreign students.
- **Premises Visited by Foreigners:** Civil authorities can **shut down clubs, resorts, or premises** frequently visited by "undesirable" foreigners such as criminals, illegal migrants, or members of unlawful associations.

About BOI:

- The Bureau of Immigration(BOI) was **established in 1971** and functions under the **Ministry of Home Affairs**.
- **Functions:**
  - It manages **immigration services** at international airports and seaports in India.
  - It maintains records of all **arrivals and departures** from the country.
  - It works with **Foreigners Regional Registration Offices (FRROs)** to provide visa and stay-related services for foreigners.

NIRF 2025 RANKINGS

The NIRF 2025 rankings were announced, with IIT Madras securing the top position in the overall category for the 7th consecutive year.

About:

- The National Institutional Ranking Framework (NIRF) 2025 was released by the Union Ministry of Education.
- **The rankings are based on five parameters:** Teaching, Learning and Resources (TLR), Research and Professional Practice (RP), Graduation Outcomes (GO), Outreach and Inclusivity (OI), and Perception (PR).

The Toppers

OVERALL

	2025	2024
1	IIT Madras	IIT Madras
2	IISc Bangalore	IISc Bangalore
3	IIT Bombay	IIT Bombay
4	IIT Delhi	IIT Delhi
5	IIT Kanpur	IIT Kanpur

ENGINEERING

	2025	2024
1	IIT Madras	IIT Madras
2	IIT Delhi	IIT Delhi
3	IIT Bombay	IIT Bombay
4	IIT Kanpur	IIT Kanpur
5	IIT Kharagpur	IIT Kharagpur

MANAGEMENT

	2025	2024
1	IIT Ahmedabad	IIT Ahmedabad
2	IIT Bangalore	IIM Bangalore
3	IIM Kozhikode	IIM Kozhikode
4	IIT Delhi	IIT Delhi
5	IIM Lucknow	IIM Calcutta

UNIVERSITIES

	2025	2024
1	IISc Bangalore	IISc Bangalore
2	JNU	JNU
3	Manipal Academy of Higher Education	Jamia Millia Islamia
4	Jamia Millia Islamia	Manipal Academy of Higher Education
5	Delhi University	Banaras Hindu University

COLLEGES

	2025	2024
1	Hindu College	Hindu College
2	Miranda House	Miranda House
3	Hans Raj College	St. Stephen's College
4	Kirori Mal College	Ramakrishna Mission Vivekananda Centenary College, West Bengal
5	St. Stephen's College	Atma Ram Sanatan Dharma College

FAST TRACK IMMIGRATION – TRUSTED TRAVELLER PROGRAMME (FTI-TTP)

Union Home Minister Amit Shah launched the programme at five more airports — Lucknow, Thiruvananthapuram, Tiruchirappalli, Kozhikode, and Amritsar.

About:

- **Launch:** Started in July 2024 at Delhi's IGI Airport; later extended to Mumbai, Chennai, Kolkata, Bengaluru, Hyderabad, Cochin, and Ahmedabad.
- **Purpose:** To speed up immigration clearance for pre-verified Indian nationals and OCI cardholders.
- **Process:** Provides immigration clearance in 30 seconds, without queues or manual checks.
- **Integration Plan:** To be expanded to 21 major airports, including Navi Mumbai and Jewar.
- **Beneficiaries:** Especially helpful for OCI cardholders, ensuring hassle-free entry.
- **Scale of Usage:** About 3 lakh travellers registered; 2.65 lakh have already used the facility.

INDIA'S 15TH VICE PRESIDENT SWORN IN

India's 15th Vice President C.P. Radhakrishnan was sworn in at Rashtrapati Bhavan, where the President administered the oath of office.

About:

- The Vice President took the **oath of office under Article 69 of the Constitution**, pledging to uphold the Constitution, protect India's sovereignty and integrity, and faithfully perform the duties of the office.
- After assuming charge as **Chairman of the Rajya Sabha**, he held a meeting with floor leaders of political parties and underlined his role in maintaining order in the Upper House.
- He stressed that the **Opposition is a vital part of parliamentary democracy** and assured full cooperation in the smooth functioning of the House.

HIMACHAL PRADESH BECOMES FULLY LITERATE STATE

On International Literacy Day, Himachal Pradesh Chief Minister declared the state fully literate, achieving a 99.30% literacy rate which is higher than the national benchmark of 95%.

About:

- According to the **2011 Census**, literacy is defined as the ability to both read and write with understanding in any language for individuals aged seven and above.
  - Merely being able to read does not qualify as literacy.
- **Full literacy** is defined as achieving a **95% literacy rate in a State or Union Territory**.

International Literacy Day (ILD)

- ILD is observed annually on September 8 and was proclaimed by UNESCO during the 14th General Conference in October 1966, following the landmark World Conference of Ministers of Education on the Eradication of Illiteracy held in Tehran in 1965.
- **2025, International Literacy Day's theme:** "Promoting Literacy in the Digital Era".

India's Progress in Literacy

- India has made **significant progress** in literacy, with Himachal Pradesh becoming the **fourth state**—after **Tripura, Mizoram, and Goa**—to achieve full functional literacy. Ladakh is the first fully literate Union Territory.
- The national literacy rate rose from **74% in 2011 to 80.9% in 2023–24.**
- The **ULLAS Nav Bharat Saaksharta Karyakram** enrolled over 3 crore learners with a 90% success rate.

BETA VERSION OF "ADI VAANI"

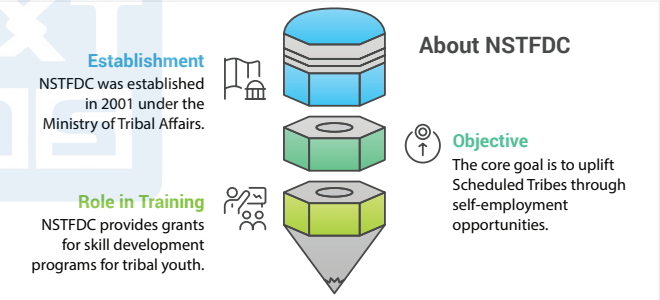
The Ministry of Tribal Affairs has launched the beta version of "Adi Vaani," app.

About

- It is an AI-powered translation tool designed to support a future large language model for tribal languages.
- It combines advanced technology with community efforts to protect and revive tribal languages and cultures in India.
- It is **India's first AI-powered translator** for tribal languages which was developed under **Janjatiya Gaurav Varsh.**
- **Adi Vaani supports:** Santali (Odisha), Bhili (Madhya Pradesh), Mundari (Jharkhand), Gondi (Chhattisgarh)
  - Additional languages including Kui and Garo are under development for the next phase.

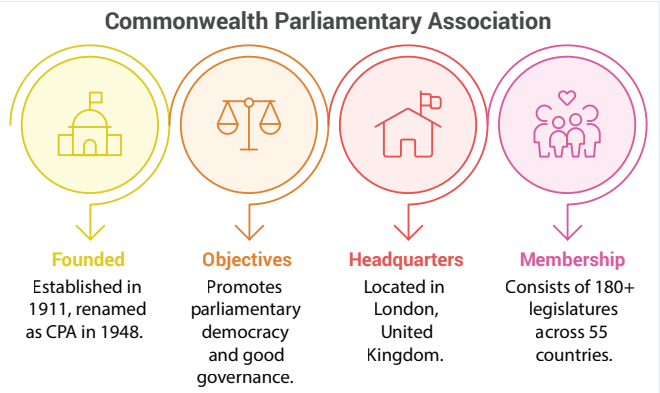
NATIONAL SCHEDULED TRIBE FINANCE AND DEVELOPMENT CORPORATION

Coal India Limited (CIL) and the National Scheduled Tribe Finance and Development Corporation (NSTFDC) have signed a Memorandum of Understanding (MoU) aimed at empowering tribal students enrolled in Eklavya Model Residential Schools (EMRSs).



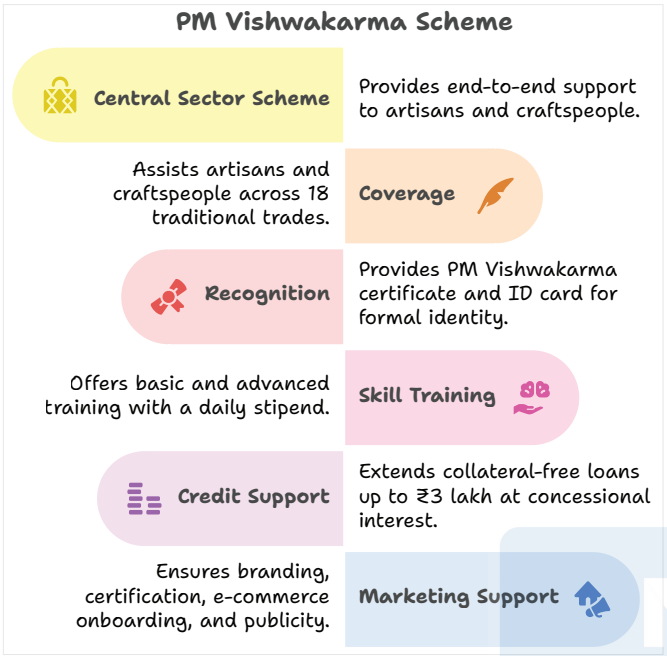
COMMONWEALTH PARLIAMENTARY ASSOCIATION (CPA)

Lok Sabha Speaker Om Birla inaugurated the 11th Commonwealth Parliamentary Association (CPA) India Region Conference at Bengaluru.



PM VISHWAKARMA SCHEME

On 17 September 2025, the PM Vishwakarma Scheme completed two years.



AI FOR VIKSIT BHARAT ROADMAP

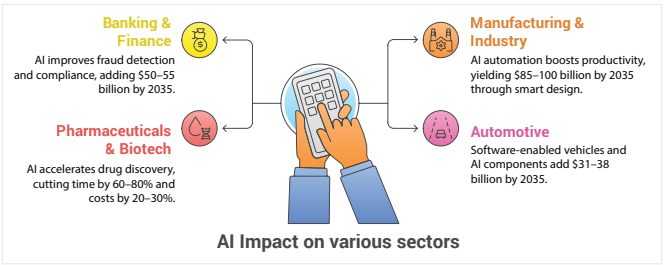
NITI Aayog launched two transformative initiatives, AI for Viksit Bharat Roadmap: Opportunity for Accelerated Economic Growth and NITI Frontier Tech Repository under its Frontier Tech Hub.

About

- **Aim:** Use Artificial Intelligence (AI) to boost productivity, efficiency, and innovation in India.
- **Focus:**
  - **Adoption of AI** across industries to improve outcomes.
  - **Generative AI in R&D** to drive innovation and leapfrog growth.
- **Vision:** Mainstream AI solutions across all districts for **inclusive development** and global competitiveness.

NITI Frontier Tech Repository:

- Showcases 200+ impact stories in Agriculture, Healthcare, Education, and National Security.
- Highlights how states and startups use tech to transform livelihoods.
- **Supporting Initiatives:**
  - **Frontier 50 Initiative:** NITI Aayog to support 50 Aspirational Districts/Blocks in deploying proven frontier tech solutions.
  - **Frontier Tech Impact Awards:** Annual awards for 3 states excelling in tech use for **governance, health, education, and livelihoods.**



AI Impact on various sectors

VIKSIT BHARAT BUILDATHON 2025

The Union Education Ministry has launched the Viksit Bharat Buildathon 2025, a nationwide virtual innovation contest for school students, with a prize pool of Rs1 crore.

About

- **Participants:** Open to students from **Classes 6 to 12** across six lakh government and private schools.
- **Objective:** Encourage students to develop innovative ideas and products focusing on **self-reliance, indigenous knowledge, and sustainability**, contributing to India's vision of **Viksit Bharat by 2047.**
- **Organisers:** Department of School Education & Literacy, in collaboration with Atal Innovation Mission (NITI Aayog) and AICTE.
- **Background:** Builds upon the success of **School Innovation Marathon 2024**, which led to programmes like the **Student Innovator Programme (SIP)** and **Student Entrepreneurship Programme (SEP)**, along with patents and startup ventures from the Atal Tinkering Labs.

NATIONAL INITIATIVE ON WATER SECURITY

The Government of India has launched the 'National Initiative on Water Security,' making water conservation a top national priority.

Key Features of the Initiative

- **Fund Allocation Mandates:**
  - **'Over-exploited'/'Dark zone' blocks:** 65% of MGNREGA funds must be spent on water-related works (rainwater harvesting, groundwater recharge).
  - **'Semi-critical' blocks**: 40% of funds for water conservation.
  - **All other blocks:** 30% minimum for such activities.
- **Budgetary Focus**: Out of the ₹88,000 crore annual MGNREGA budget (2025–26), a fixed share is now earmarked for water security.
- **Groundwater Assessment Basis:** Fund distribution and block categorisation are based on the Dynamic Ground Water Resources Assessment Report (2024), as classified by the **Central Ground Water Board (CGWB).**

What Qualifies as Water Conservation Works?

- Construction of check dams, farm ponds, community tanks, and percolation tanks.
- Desilting, renovation of traditional water bodies, groundwater recharge pits, soak wells.
- Building irrigation channels, watershed management structures, afforestation and plantation works to increase water retention.

Rationale

- **Groundwater depletion:** India is the world's largest user of groundwater (~25% of global extraction).
- **Rural dependence:** 80% of rural drinking water and nearly two-thirds of irrigation rely on groundwater.
- **Climate stress:** Erratic monsoons and rising drought frequency exacerbate water scarcity.
- **PM's directive:** Following the Prime Minister's instruction to earmark funds specifically for water, this step institutionalises water conservation as a national rural priority.

TRADITIONAL MEDICINE

The World Health Organization (WHO) reports that traditional medicine is practised in 88% of its member-states — 170 out of 194 countries.

Definition of Traditional Medicine

- The **World Health Organization (WHO)** defines *traditional medicine* as "the sum total of knowledge, skills and practices based on the theories, beliefs and experiences indigenous to different cultures, used in the maintenance of health, prevention, diagnosis, improvement or treatment of illness."

Global Acceptance

- The global traditional medicine market is expected to reach **USD 583 billion by 2025** (growth 10–20% annually).
- **Market value:** China – USD 122.4 billion, Australia – USD 3.97 billion, India (AYUSH) – USD 43.4 billion.
- Shows a shift from reactive treatment to preventive and holistic healthcare.

About AYUSH

- AYUSH = Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy.
- Established to provide **affordable healthcare services** and integrate traditional systems with modern healthcare.

Key Features of AYUSH Systems

System	Origin/Basis	Core Principle	Methods/Practices
Ayurveda	Oldest Indian healing system	Balance of body, mind, and spirit	Herbs, diet, detox therapies, lifestyle changes (e.g., Panchakarma)
Yoga	Ancient Indian discipline	Union of body and mind for wellness	Postures (asanas), breathing (pranayama), meditation
Naturopathy	Nature-based healing	Body heals itself through natural means	Hydrotherapy, diet, fasting, sunlight, massage, lifestyle correction
Unani	Greek origin, developed in India	Balance of four humors (blood, phlegm, yellow bile, black bile)	Herbal remedies, diet regulation, lifestyle management
Siddha	Traditional system from South India	Focus on longevity, prevention, and balance	Alchemy, minerals, herbal formulations, dietary regulation
Homoeopathy	German origin, practiced widely in India	Principle of "like cures like"	Highly diluted substances to activate body's healing response

India's Ayurvedic Transformation

- The AYUSH industry has **92,000+ MSMEs**, expanded nearly **8 times in a decade.**
- Exports worth **USD 1.54 billion** to 150+ countries.
- Ayurveda is recognised in **30+ countries.**
- **Ayush Visa** introduced for foreign nationals seeking **therapeutic care, wellness, yoga.**
- Over 50 Ayurveda/Unani products are registered in **8 countries.**
- WHO's **Global Traditional Medicine Centre (GTMC)** established in **Jamnagar, India.**
- The UN declared **21 June as International Day of Yoga (2014).**

Government Initiatives

- **Ministry of AYUSH (2014):** Promotes and regulates AYUSH practices.
- **National AYUSH Mission (NAM):** Centrally Sponsored Scheme to expand AYUSH healthcare; includes **AYUSH Gram model** for local health services.
- **Global Cooperation:** 25 bilateral agreements, 52 partnerships, and 43 AYUSH Information Cells in 39 countries.
- **AYUSH Export Promotion Council (AYUSHEXCIL):** Promotes global trade of AYUSH products and services.
- **Research & Validation:** Institutes like **All India Institute of Ayurveda (AIIA), National Institute of Ayurveda (NIA), Central Council for Research in Ayurvedic Sciences (CCRAS)** for clinical trials, drug standardisation and integrative medicine.
- **Information, Education and Communication (IEC):** AROGYA fairs, multimedia campaigns, awareness drives.
- **International Promotion:** Deputation of AYUSH experts abroad for training, conferences, and collaborations.

FOREIGN CONTRIBUTION REGULATION ACT, 2010

The Union Ministry of Home Affairs (MHA) has cancelled the Foreign Contribution (Regulation) Act (FCRA) licence of the Students Educational and Cultural Movement of Ladakh (SECMOL), founded by climate activist Sonam Wangchuk.

About

- **Alleged violations included:**
  - Deposit of **₹3.5 lakh** from the sale of an old bus into the FCRA account, treated as "foreign donation."
  - **₹54,600 local funds** were wrongly deposited into the FCRA account.
  - Receipt of **₹4.93 lakh** from a Swedish group for studies linked to ***sovereignty***, barred under FCRA.

Key Provisions of the FCRA:

- The **Foreign Contribution (Regulation) Act, 2010,** regulates the acceptance and use of foreign funds by individuals, NGOs, and associations.
- **Registration/permission** is required to receive foreign contributions.
- Funds cannot be used for activities affecting **national security, sovereignty, or public interest.**
- **Certain categories** (e.g., political parties, judges, government servants, journalists of state-owned media) are barred from receiving foreign funds.
- **The 2020 amendment introduced stricter norms:**
  - Mandatory opening of FCRA bank account in **SBI, New Delhi.**
  - Prohibition on the transfer of foreign funds to other NGOs.
  - Cap of **20%** on administrative expenses.
  - Aadhaar mandatory for office-bearers of NGOs.

NATIONAL SECURITY ACT (NSA)

The Ladakh administration has justified the detention of climate activist Sonam Wangchuk under the National Security Act (NSA)

National Security Act (NSA) of 1980

- It allows preventive detention to protect national security, public order, and essential services.
- It is a powerful tool that limits individual liberty and must be exercised sparingly and lawfully, ensuring due process and rights protection.
- **Key features:**
  - **Grounds for Detention:** NSA can be invoked if a person's actions threaten national defense, foreign relations, state security, communal harmony, or involve smuggling/ disruption of essential services.
  - **Procedure:** Detention orders can be issued by the Central or State Government based on subjective satisfaction.
    - The detained person must be informed of the reasons, and an Advisory Board must be formed within 3 weeks to review the case.
  - **Period of Detention**: Initially up to 12 months, extendable in blocks not exceeding 12 months, with government approval.
  - **Safeguards:** The detainee has the right to legal representation and to make a representation before the Advisory Board.
    - The government must consider the Board's recommendation and can revoke or modify the order.
  - **Judicial Review:** The detention can be challenged in High Court through a habeas corpus petition if found unlawful.

PERSONALITY RIGHTS IN INDIA

Recently, the Delhi High Court protected the rights of celebrities against the unauthorised use of their names, images, and voices through AI and deepfakes, reinforcing the importance of personality rights in the digital era.

Personality Rights

- These rights protect a person's **name, image, voice, signature, and overall likeness** from being misused, especially for commercial purposes.
- They are linked to **Article 21 of the Constitution**, which guarantees the **right to privacy and dignity**, and are supported by laws like the **Copyright Act, 1957** and the **Trade Marks Act, 1999**, along with court judgments.

Important Court Cases

- **R. Rajagopal vs State of Tamil Nadu (1994):** The Supreme Court said that individuals have the right to privacy and control over their identity. But if information is already part of public records, it can be published without consent.

- **Rajinikanth Case (2014, Madras HC):** The court stopped a film from using Rajinikanth's name, style, and image, ruling that celebrities can prevent such misuse even without showing actual harm.
- **Jackie Shroff Case (2024, Delhi HC):** The court restrained e-commerce sites and AI chatbots from using his persona without his permission.
- **Arijit Singh Case (2024, Bombay HC):** The court banned a company from cloning his voice using AI, calling it an attack on dignity and personality rights.

Balancing with Free Speech

- **Article 19(1)(a)** protects free speech, which covers satire, parody, criticism, and artistic expression.
- But courts have made it clear that **using someone's identity for commercial gain without consent** is not allowed.

SUPREME COURT ON SPORTS AS A UNIFYING FORCE

In the All India Football Federation (AIFF) case, Justice P.S. Narasimha underlined how sports foster fraternity and inclusivity, making them essential for a united society.

Key Observations of the Court

- **Sports as a Community Resource:** Sports opportunities and facilities should be open to the entire community, not restricted to a privileged few.
- **Unifying Role of Sports:** Sports cut across social divides and act as a powerful tool against **casteism, communalism, racism, and other forms of discrimination.**
- **Building Fraternity:** From local games to international events, sports bring people of different backgrounds together, reflecting the constitutional value of **fraternity (brotherhood).**
- **Limits of Law:** The Court noted that **fraternity cannot be imposed by law**; it must develop naturally through trust, unity, and shared experiences like sports.
- **Sports as National Institutions:** Sports bodies play an important role in national life and must be managed with **integrity, fairness, and professionalism**, ensuring opportunities for all deserving players.
- **Duty of the State:** The government must expand sports facilities with expertise and efficiency. Revenue from sports events and media rights should be used to make sports **affordable and accessible** to everyone.

Significance:

- **Promotion of Equality:** Ensures that sports facilities and opportunities are accessible to all sections of society, not limited to elites.
- **Strengthening Fraternity:** Highlights sports as a means to build unity and mutual respect among diverse communities.
- **Encouraging Good Governance:** Emphasizes transparent and fair management of sports bodies for national progress.
- **State Responsibility:** Reinforces the government's duty to develop inclusive, affordable, and high-quality sports infrastructure.

SUPREME COURT UPHOLDS SECULARISM IN MYSURU DASARA CASE

The Supreme Court dismissed the petition, affirming that inviting a Muslim dignitary to inaugurate the Mysuru Dasara festival does not violate constitutional principles.

Background:

- A petition challenged the decision to allow Booker Prize winner **Banu Mushtaq**, a Muslim, to inaugurate rituals at the **Chamundeshwari temple** during the Mysuru Dasara festival, arguing that only a Hindu dignitary should perform them.

Supreme Court's Observations:

- The Court invoked the **Preamble of the Constitution**, which guarantees **secularism, liberty, equality, and fraternity.**
- Stated that since Dasara is organised by the **State government**, it must remain secular and **cannot favour any religion.**
- The Court cited the **1994 M. Ismail Faruqui judgment**, which clarified that the **Indian State has no religion.**

SECULARISM, A BASIC FEATURE

Supreme Court, while dismissing the plea, highlighted that liberty of thought and faith, equality and fraternity are ideals cardinal to national unity.

- The petitioner argued that the inaugural pooja was a religious practice reserved for Hindus.
- The court emphasised that the event was conducted by the State of Karnataka, which is secular and 'maintains no religion of its own'

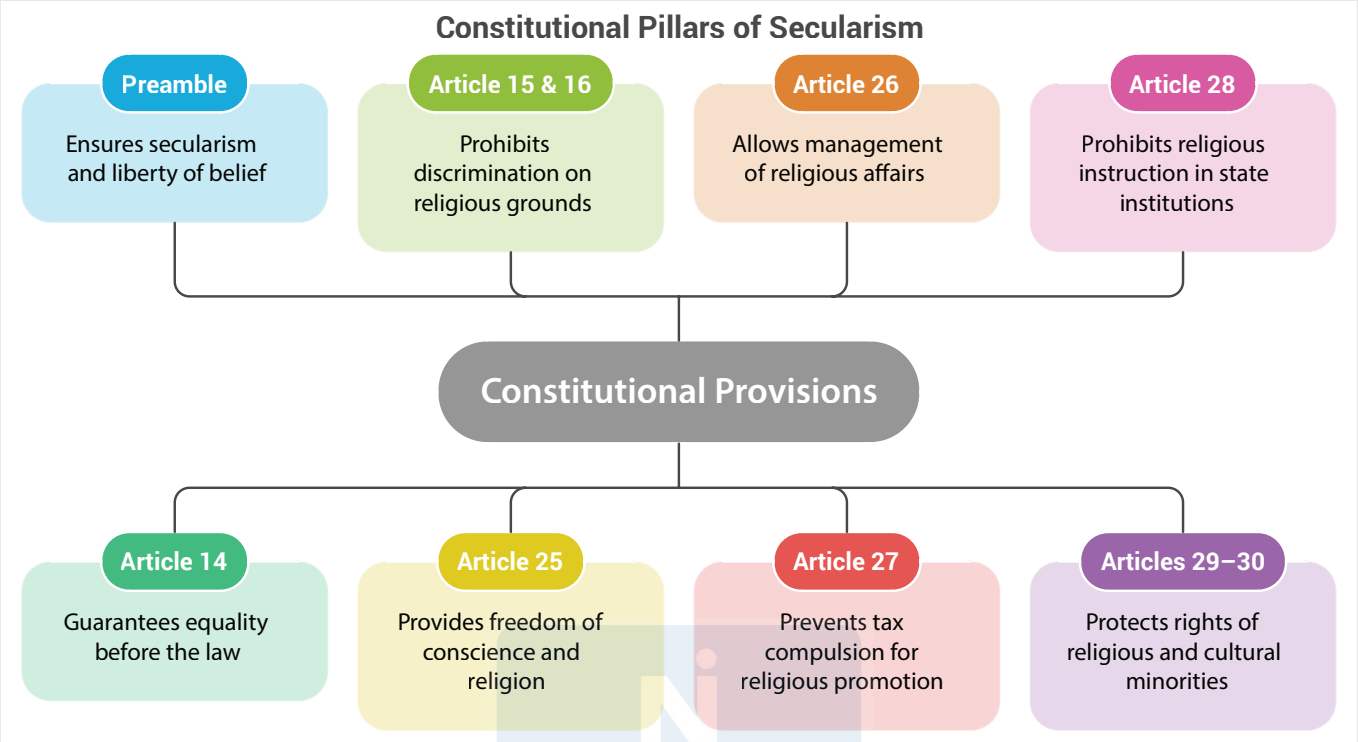
- The court relterated that the State's neutral attitude to all religions did not prevent it from intervening to 'eliminate practices which impede the right to equality.

Secularism in India

- **Indian secularism** is based on **"equal respect for all religions"**, not strict separation of religion and State.
  - The State **can regulate or reform religious practices** but cannot promote or favour any religion.

Judicial Interpretations

- **Kesavananda Bharati (1973):** The SC held that Secularism is part of the Basic Structure of the Constitution.
- **1994 case of S.R. Bommai v. Union of India:** The Supreme Court held that secularism is a basic feature of the Indian Constitution and that politics and religion must remain separate.

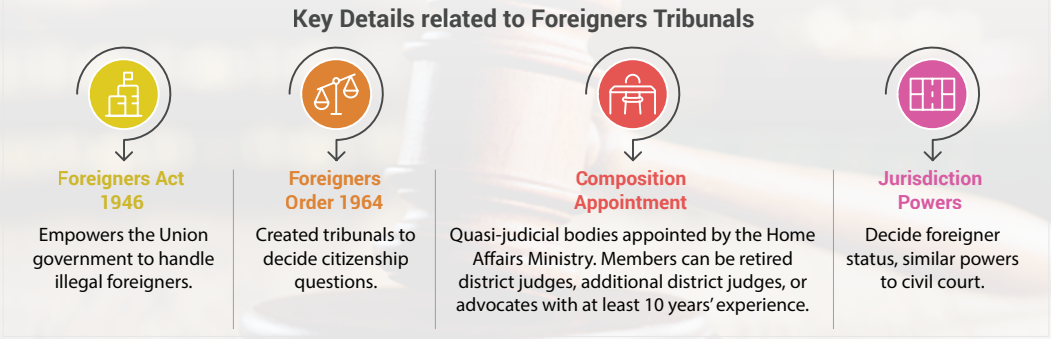


Comparison Between Indian and Western Secularism

Aspect	Western Model	Indian Model
Relationship Between State & Religion	Emphasises strict separation – State and religion function in entirely separate spheres.	Follows principled distance – State maintains flexible engagement with religion when required.
Intervention in Religious Matters	State does not interfere as long as religion stays within legal boundaries.	State can intervene to reform regressive or discriminatory practices (e.g., untouchability, sati, child marriage).
Religious Funding / Education	State does not provide funding to religious institutions.	State can extend aid to minority-run institutions under Articles 29 & 30.
Public Display of Religion	Religion is considered private; no role in public policy or institutions.	Religion is permitted in public life, subject to constitutional checks (e.g., religious holidays, Waqf boards, endowments).
Purpose of Secularism	Aims to ensure neutrality and non-involvement of the State in religion.	Aims to ensure equal respect and reform of all religions, without imposing uniformity.

FOREIGNERS TRIBUNALS

The Supreme Court of India has recently decided to examine a petition challenging the standard of proof applied by Foreigners Tribunals in Assam.



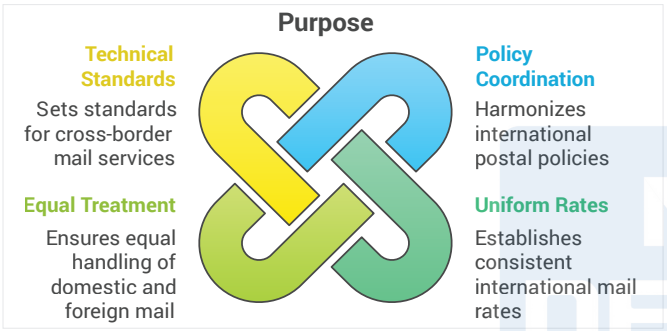
2 INTERNATIONAL RELATIONS

UNIVERSAL POSTAL UNION

The 28th Universal Postal Congress, the supreme decision-making body of the Universal Postal Union (UPU), opened in Dubai.

About:

- **Established:** 9 October 1874 (Treaty of Bern).
- **UN Agency:** Became a specialized UN agency in 1948.
- **Members:** 192 member countries, making it one of the oldest and largest global organizations. **India** joined UPU in 1876.



INDIA SUPPORTS UNGA RESOLUTION ON PALESTINE

India supported a UN General Assembly resolution that endorsed the New York Declaration, calling for a peaceful settlement of the Palestine issue and the implementation of the two-state solution.

About:

- **Adoption:** The resolution was introduced by **France** and adopted with **142 nations in favour**, **10 against** (including the US, Israel, Argentina, and Hungary), and **12 abstentions.**
- **India's Stand:** India voted in favour of the resolution titled *"Endorsement of the New York Declaration on the Peaceful Settlement of the Question of Palestine and the Implementation of the Two-State Solution."*

New York Declaration:

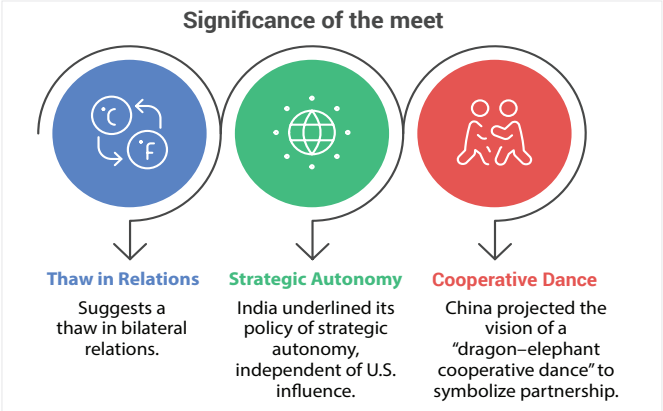
- Originated from a **high-level UN conference** co-chaired by **France and Saudi Arabia.**
- Aims at **collective action** to end the war in Gaza and secure a **peaceful, lasting settlement.**
- Reaffirms commitment to the **establishment of a sovereign and viable Palestinian State alongside Israel.**
- **Core Commitments of the Declaration:**
  - Collective action to end the war in Gaza and secure a peaceful, lasting settlement.
  - Establishment of a sovereign and viable Palestinian State alongside Israel.
- **Called upon Israel to:**
  - Publicly commit to the two-state solution
  - End violence and incitement against Palestinians.
  - Halt settlement, land grabs, and annexation in the Occupied Palestinian Territories, including East Jerusalem.
  - Stop the settlers' violence and renounce the annexation projects.

PM MODI–XI JINPING MEETING AT SCO SUMMIT 2025

Prime Minister Narendra Modi held a meeting with Chinese President Xi Jinping on the sidelines of the SCO Summit in Tianjin.

Key Outcomes of the Meet:

- **Border Issue:** Both sides acknowledged the **2024 disengagement** and agreed to maintain peace along the border.
  - They reaffirmed their commitment to finding a **fair and reasonable boundary solution**. President Xi emphasized that the border issue should not define the overall relationship.
- **People-to-People Ties:** Decision taken to resume the Kailash Mansarovar Yatra, reintroduce tourist visas, and restart direct flights.



- **Trade & Economy:** Both countries agreed to work toward **balanced trade**, reduce the deficit, and support global trade in the backdrop of U.S. tariff disputes.
  - PM Modi noted that stronger trade ties would enhance **China's global image.**
- **Terrorism:** PM Modi highlighted that both nations are **victims of terrorism**. India urged China's cooperation against **cross-border terrorism**, including through the **SCO platform.**

INDIA–ISRAEL SIGNED BILATERAL INVESTMENT AGREEMENT

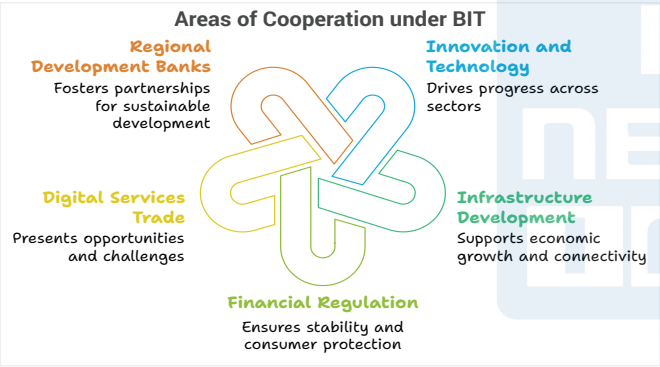
The Government of India and the Government of Israel signed a Bilateral Investment Agreement (BIA).

Meaning of BIA:

- A Bilateral Investment Agreement (BIA) is a treaty signed between two countries to promote and protect investments made by investors from one country to another.

About the Agreement:

- Israel becomes the first OECD member state to sign an investment treaty with India under its new model framework.
- **Replacement of the Old Treaty:**
  - The new Bilateral Investment Agreement replaces the 1996 treaty, which was terminated in 2017.
  - The termination reflected India's broader policy shift on investment treaties, aimed at aligning them with the **new Model Bilateral Investment Treaty (BIT)** framework.



Organisation for Economic Co-operation and Development (OECD)

- **About:** The OECD is an intergovernmental economic organisation with 38 member countries, founded in 1961, headquartered in Paris, France
- **Membership:** Mostly **high-income and developed economies**, including the US, UK, Japan, South Korea, Israel, and several EU nations.
- **Objective:** To promote economic growth, stability, free markets, trade, innovation, and improved living standards globally.
- **Functions:** Provides **policy advice, research, economic data, best practices**, and sets international standards in areas like taxation, education, environment, and digital economy.
- **India's Status:** India is **not a member**, but a **key partner country**, working closely with OECD on issues like tax transparency, investment, and economic reforms.

GEN Z PROTESTS IN NEPAL

Nepal faced an unprecedented youth-led uprising against corruption, resulting in PM Oli's resignation and Army intervention.

About:

- **Trigger:** The ban on more than 20 social media platforms became the immediate spark for mass unrest.
- **Underlying Causes:**
  - Long-standing **anger over corruption, poor governance, and a lack of accountability** in political institutions.
  - Frustration among youth due to **unemployment and lack of opportunities.**

A Desperate Economic Situation

- **Over 20%** of Nepal's 30 mn people live in poverty.
- **The Richest 10%** earn three times income of the poorest 40%, underscoring stark economic divides.
- **Unemployment** among those aged 15-24 was over 22% in 2022-23.
- **2 Million** people from Nepal work abroad in sectors like construction and agriculture, including in India.
- **$11 Billion**, the amount they sent as remittance in 2024, accounted for 26% of the country's economy.

- **Nature of Protests:**
  - Popularly called the **"Gen Z Protests"**, they were **youth-driven and nationwide.**
  - Turned violent with attacks on **government buildings, leaders' residences, and even the Parliament.**
  - Instances of **arson and vandalism** added to the chaos.
- **Political Fallout:**
  - Prime Minister **K. P. Sharma Oli resigned**, prompting a leadership crisis.
  - President Poudel appointed him **caretaker PM**, but coalition instability deepened the vacuum.
  - Recently, **Mrs. Sushila Karki** was appointed as the first female Prime Minister of Nepal.

Implications for India:

- **Security Concerns:** Instability may impact **India–Nepal open border security**, creating risks of infiltration, smuggling, or refugee flows.
- **Strategic Angle:** Political vacuum could allow **China to step up influence in Nepal**, reducing India's strategic space in the Himalayan region.
- **Economic Impact:** Border trade and supply chains may be disrupted, affecting businesses and citizens on both sides.
- **Diplomatic Challenges:** Rising **anti-India rhetoric in Nepalese politics** could strain bilateral ties further.

DEFENCE PACT BETWEEN SAUDI ARABIA AND PAKISTAN

Recently, Pakistan signed a mutual defence agreement with Saudi Arabia, India has said that it was aware of the development and reiterated its commitment to "comprehensive national security".

About the Agreement:

- The pact was signed after an **emergency summit in Qatar** of Arab and Muslim nations following Israel's strikes against Hamas leaders.
- It states that "any aggression against either country shall be considered an aggression against both."
- The agreement aims to **strengthen defence cooperation** and build **joint deterrence** against external threats.

Rationale Behind the Pact:

- The timing of the pact is being seen as a **strong message to Israel**, especially after its attacks in Qatar.
- Arab states are worried about **Israel's expanding operations** across Iran, Syria, Lebanon, Yemen, and Qatar.
- Gulf states are increasingly **doubting the United States' credibility** as a reliable security guarantor.
- Israel's position as the **only nuclear-armed nation in the Middle East** heightens the sense of insecurity in the region.
- The pact also signals **Islamic solidarity**, showcasing unity among Muslim countries with Saudi Arabia and Pakistan at the centre.

India's Reaction:

- The **Ministry of External Affairs** stated that it had anticipated such a development.
- India will examine the **implications of this agreement for national security, regional stability, and global peace.**
- The government reiterated its commitment to **protecting India's interests** and ensuring security across all domains.

H-1B VISAS

The U.S. President has signed a proclamation to raise the fee for H-1B visas to a staggering $1,00,000 annually, representing a dramatic increase from the current $1,500 administrative costs.

About

- **Type and Purpose:** The H-1B visa is a non-immigrant work visa issued by the United States.
  - It allows American companies to hire skilled foreign professionals in jobs that require specialised knowledge, such as information technology, engineering, finance, medicine, and scientific research.
- **Validity:** The visa is initially valid for three years and can be extended further, up to a maximum of six years.
- **Employer-Sponsored Nature:** An individual worker cannot apply for the H-1B visa independently.
  - The process is employer-driven, meaning that a U.S. employer must sponsor and file the petition on behalf of the foreign professional.
- **Lottery System:** Because the demand for H-1B visas is far greater than the available quota, the U.S. government conducts an annual lottery system to randomly select applicants who are allowed to proceed with the visa process.
- **Dependents:** H-1B visa holders can bring their immediate family members to the U.S.
  - Their spouse and children under 21 years of age are eligible for the H-4 dependent visa, which allows them to live in the U.S. during the worker's stay.
- **Major Beneficiaries:** Indian professionals form the largest group of H-1B visa holders worldwide.
  - Most of them are employed in the IT and technology sectors, making India the biggest beneficiary of this visa program.

INDIA CONDEMNED THE ISRAEL'S DOHA STRIKE

India's recent condemnation of Israel's bombing in Doha is a shift from its more muted positions on previous Israeli operations in other countries.

About

- **Israeli Defence Forces (IDF)** bombed a home in Doha, Qatar, where Hamas leaders were reportedly meeting in the U.S.-proposed ceasefire plan.
- **Israel PM Netanyahu** claimed the strike was "justified," accusing Qatar of "harbouring and funding" Hamas operatives.
- **India condemned the violation of the sovereignty of Qatar.**
  - The statements are in **stark contrast to India's reactions to Israel's bombings of several other countries in the region,** including Lebanon, Yemen, Tunisia, Syria, and Iran.

Reasons for India's Stand

- **Energy Security:** Qatar is a crucial LNG supplier for India having long-term contracts. Any escalation in Doha directly threatens India's energy stability.

- **Large Diaspora:**
  - Over 8 lakh Indians live in Qatar, contributing heavily in remittances.
  - Security of diaspora communities is always a priority in India's Gulf policy.
- **Strategic Balancing:**
  - India has strong defence and tech ties with Israel, but also deep economic and cultural ties with Arab Gulf states.
  - The statement avoids direct condemnation of Israel, but signals displeasure at destabilising actions.
- **Consistency with Multilateral Stance:** India recently supported the two-state solution for Palestine at UNGA and its stance is in line with that.

FRANCE RECOGNISED PALESTINE AS A STATE

France and several other Western nations formally declared their recognition of a Palestinian state at the United Nations.

About

- France's announcement comes as the United Kingdom, Canada, Australia and Portugal declared recognition recently.
  - The move, however, is largely symbolic **without support from the United States,** which has the **power to veto membership.**
- The Israeli Prime Minister reiterated his position that there would be no Palestinian state and vowed to accelerate the creation of new settlements.

Meaning of Recognition

- Recognition in international law means that one country **officially accepts another as a state** with rights and duties.
- **In simple terms, it means:** "We accept you as a country and are willing to deal with you."

Types of Recognition

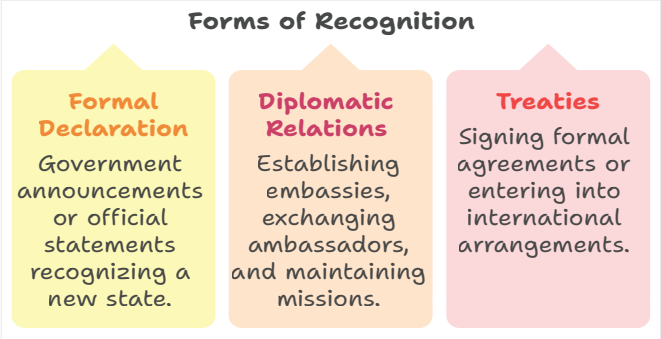
- **De Jure Recognition:** This is **full legal recognition** of a state. It allows participation in treaties, the opening of embassies, and full diplomatic relations.
- **De Facto Recognition:** This is **provisional or limited recognition**. A state is treated as existing, but full legal rights are withheld, usually when the situation is uncertain.

Ways of Recognition:

- **Unilateral Recognition:** A state independently recognises another state.
- **Collective Recognition:**
  - Recognition is given through **international organisations**, such as membership in the **United Nations**, which signals wide acceptance.

Criteria for Recognition:

- As per the **Montevideo Convention (1933)**, a state must have:
  - A permanent population.
  - A defined territory.
  - A functioning government.
  - The capacity to enter into relations with other states.



INDIA AND MOROCCO SIGN DEFENCE COOPERATION

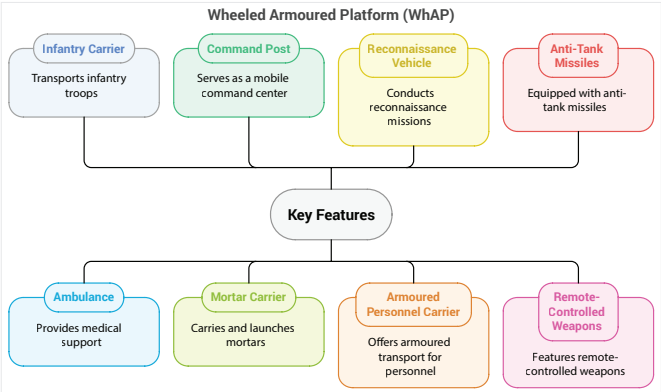
India and Morocco have strengthened defence ties with the signing of a new MoU and the opening of a major Indian defence factory in Morocco.

Key Developments

- India and Morocco signed a **Memorandum of Understanding (MoU)** on defence cooperation in **Rabat.**
- The MoU covers counter-terrorism, maritime security, cyber defence, peacekeeping operations, and military medicine.
- Defence Minister **Rajnath Singh** also announced the opening of a new **Defence Wing at the Indian Embassy** in Morocco.

TASL Defence Factory in Morocco

- A new factory of **Tata Advanced Systems Limited (TASL)** was inaugurated in **Berrechid, Morocco.**
- It is the **largest defence factory in Morocco** and also the **first Indian private defence plant in Africa.**
- The facility will manufacture the **Wheeled Armoured Platform (WhAP)**, jointly developed by **DRDO and TASL.**



3 ECONOMY

INTERNATIONAL MONETARY FUND (IMF)

Recently Former RBI Governor Urjit Patel appointed IMF Executive Director for 3 years.

About:

- **Origin:** The IMF was established in **1944** in the aftermath of the Great Depression of the 1930s.
- **IMF Membership:** 191 countries, with Executive Board representation based on financial quotas.
- **Executive Board:** The Board consists of **25 Executive Directors,** Elected by member countries or groups of countries.
  - India belongs to a four-country constituency along with Bangladesh, Sri Lanka, and Bhutan.
- **Publications:** World Economic Outlook, Global Financial Stability Report, Fiscal Monitor, Global Policy Agenda.

IMF's Role in the Global Economy

- **Crisis Management:** IMF offers financial assistance ("bailouts") during currency crises.
- **Lending Mechanism:** Provides support via SDRs (Special Drawing Rights) based on 5 major currencies.
  - A basket of five currencies: U.S. dollar, euro, Chinese yuan, Japanese yen, and British pound.
- **Financial Instruments:** Includes Extended Credit Facility, Flexible Credit Line, and Stand-By Arrangements.

BOND YIELDS

India's 10-year government bond yield rose by 26 bps in the past month, even as the RBI reduced the repo rate by 100 bps to 5.5%.

About:

- A bond is a loan that an investor provides to a borrower for a specified period of time in exchange for regular payments of interest.
- The "Term to maturity" means the period of time between the bond's issuance and the borrower's agreed-upon repayment of the loan.

Bond Yields:

- **Bond Yield:** Return on a bond investment, initially equal to the coupon rate but varies over time.
- **Types:** Coupon yield (fixed rate) and current yield (coupon ÷ market price).
- **Valuation:** Bonds trade at a premium (above face value) or discount (below face value).
- **Relation:** Price and yield move inversely—higher price means lower yield.
- **Example:**
  - A bond with a ₹1,000 face value and an ₹80 annual coupon has an 8% yield when bought at face value.
  - If the same bond is purchased for ₹1,200, the yield falls to 6.7% (80 ÷ 1200).

COCONUT DEVELOPMENT BOARD

The Coconut Development Board (CDB) celebrated World Coconut Day in Kerala, by launching revised schemes and presenting Export Excellence Awards.

About

- It is a **statutory body** under the **Ministry of Agriculture and Farmers Welfare,** Government of India, established on 12th January 1981.
- Its mandate is the integrated development of coconut cultivation and industry in India, with a focus on increasing productivity and product diversification.
- It also works on developing post-harvest processing and marketing technologies, promoting product diversification and by-product utilisation, adding value to coconut-based products.

BHARATI INITIATIVE

India's Hub for Agricultural Technology Resilience, Advancement, and Incubation for Export Development.

About:

- It envisions making India a hub for agri-food startups and innovation, with the long-term goal of achieving $50 billion in agri-food exports by 2030.
  - It aims to enhance 100 agri-food startups.
- **Startup-Centric Initiative:** Supports 100 agri-food and Agri-tech startups in the inaugural cohort.
- **Three-Month Acceleration Programme:** Focus on product development, export readiness, regulatory compliance, market access, and collaborative solutions.
- **Target Sectors:** GI-tagged agricultural products, organic foods, superfoods & processed Indian food products.
- **Collaborative Model:** Partnerships with state agricultural boards, universities (IITs, NITs), industry bodies, accelerators and private stakeholders.

Agricultural and Processed Food Products Export Development Authority (APEDA)

- **Founded**: 1986, via an Act of Parliament under the Ministry of Commerce and Industry.
- **Objective:** Development and promotion of the export of scheduled products, including fruits, vegetables, cereals, animal products, and processed foods
- **Scope**: Over 700 products across 14 main categories (e.g. fresh/processed fruits & vegetables, cereals, meat, dairy, poultry, and more).

STABLECOINS

Stablecoins have grown rapidly, with their market capitalization more than doubling in the past 18 months to nearly $280 billion.

About:

- Stablecoins are cryptocurrencies designed to maintain price stability by pegging their value to underlying assets such as:
  - Fiat currencies (e.g., USD, Euro),
  - Commodities (e.g., gold),
  - Other cryptocurrencies, or
  - Algorithm-based systems.
- Stablecoins are different from CBDCs, or Central Bank Digital Currencies, which are digital currencies officially issued and controlled by a government's central bank.
  - Meanwhile, stablecoins can be privately issued and can also be pegged to foreign currencies.

Global Scenario in Stablecoins:

- **The U.S.** passed the **Genius Act,** which mandates that stablecoins be **fully backed by liquid assets** (like cash or Treasury bills) and requires regular disclosures.
- **Japan & Singapore** have introduced targeted regulations for stablecoins.
- **China** has long prioritized the development of its **sovereign digital yuan**, however it is now also examining the rising use of **yuan-backed stablecoins.**

PINK TAX

According to International Finance Students Association's (IFSA) research 'The Gender Tax Assessing the Economic Toll on Women,' almost 67% of Indian individuals have never heard of the Pink Tax.

About:

- Pink tax is neither a real tax, nor is it a government-imposed fee.
- It's just a pricing phenomenon wherein women pay more for buying a product exclusively made for them or enjoying a service tailor-made for them.
- Pink toys, haircuts, drycleaning, razors, shampoos, body lotions, deodorants, facial care, skincare items, beauty care, clothing, T-shirts, jeans, salon services etc. suffer the tax.
- The term **"Pink Tax"** is believed to have originated in the U.S. in California in 1994.

Regulation Farmwork in India:

- While there are no specific laws in India to address the issue of Pink Tax, the National Consumer Disputes Redressal Commission ruled that companies must follow fair pricing policies and avoid gender-based price discrimination.
- In July 2018, the Union Government exempted sanitary napkins and tampons from the Goods and Services Tax (GST). Prior to this rule, these hygiene items were levied 12% GST.

DEEP SEA EXPLORATION

India got a new exploration licence from the International Seabed Authority (ISA) to explore polymetallic sulphide nodules in the Carlsberg Ridge (NW Indian Ocean, Arabian Sea).

About Polymetallic Nodules:

- Polymetallic Nodules, or manganese nodules, are rock-like mineral deposits found on the ocean floor, especially in deep-sea regions such as the Clarion-Clipperton Zone of the Pacific Ocean.
- They are primarily made up of manganese, nickel, copper, and cobalt, along with small quantities of rare earth elements.
- **Formation Process:**
  - These nodules form over millions of years through the slow accumulation of minerals from seawater around a core, such as a shell fragment or volcanic particle.
  - Their high concentration of critical minerals makes them valuable for industries like electronics, renewable energy, and battery manufacturing.
- Enhances India's role in **strategic deep-sea mining** and access to critical minerals.
- Supports India's **"Deep Ocean Mission"** and transition to mineral self-reliance.

The International Seabed Authority (ISA)

- It is an autonomous body established under the **1982 UNCLOS and the 1994 Agreement.**
- It ensures environmental protection from seabed mining and oversees resource management in the Area, which spans 54% of the world's ocean floor, recognized as the common heritage of humankind.
  - To explore mineral resources in the high seas—areas beyond any national jurisdiction—countries must obtain permission from the International Seabed Authority.

NATIONAL MAKHANA BOARD

PM Modi launched the National Makhana Board in Purnea, Bihar.

About:

- Makhana (Euryale ferox), also known as fox nut, is an **aquatic crop** cultivated in **stagnant ponds and wetlands**.
  - This plant is found in freshwater ponds throughout **South and East Asia.**
- The edible part of the Makhana plant consists of **small, round seeds** that have an outer layer ranging from **black to brown**.
  - This has led to it being referred to as the **'Black Diamond.'**
- **Climatic conditions:** For optimal growth and development, Makhana requires a temperature range of **20-35°C,** relative humidity of **50-90%,** and annual rainfall between **100-250 cm.**
- **In India**, Bihar produces about **90% of the country's makhana**, particularly the regions of **Mithilanchal and Seemanchal.**
  - In smaller quantities it is cultivated in the states of **Assam, Manipur, West Bengal, Tripura, and Odisha**, as well as in neighboring countries like **Nepal, Bangladesh, China, Japan, and Korea.**
  - **GI Tag to Mithila Makhana:** In **2022**, 'Mithila Makhana' was conferred a Geographical Indication tag.

SEX SORTED SEMEN

Prime Minister Narendra Modi inaugurated a Sex Sorted Semen facility under the Rashtriya Gokul Mission in Purnea, Bihar.

Rashtriya Gokul Mission (RGM)

- The Rashtriya Gokul Mission, launched in 2014 by the **Department of Animal Husbandry and Dairying.**
- It aims to develop and conserve indigenous cattle and buffalo breeds, improve bovine genetics, and boost milk production.
- **Key objectives** include enhancing productivity through advanced technologies, promoting high genetic merit bulls, expanding artificial insemination services, and encouraging scientific rearing and conservation of indigenous breeds.

Sex Sorted Semen

Semen sex-sorting technology increases the chances of female calf births with about 90% accuracy, reducing the economic burden on dairy farmers and boosting their income by producing more replacement heifers.

BUREAU OF INDIAN STANDARDS (BIS)

In the past three years, the Bureau of Indian Standards (BIS) has issued 84 Quality Control Orders (QCOs) covering 343 products.

About

- The Bureau of Indian Standards is the National Standards Body of India under the **Ministry of Consumer Affairs, Food & Public Distribution,** Government of India.
- It is established by the **Bureau of Indian Standards Act, 2016** which came into effect on **12 October 2017.**
- **Functions:**
  - **Formulation of Indian Standards (IS)** across many sectors.
  - **Product Certification Schemes**, both voluntary and compulsory.
  - **Release of Quality Control Orders (QCOs):** Making compliance with certain Indian Standards mandatory for some products.
- **Quality Control Orders (QCOs):**
  - QCOs are legal instruments issued under the **Bureau of Indian Standards (BIS) Act, 2016.**
  - They make it mandatory for both domestic and imported products to conform to specified Indian Standards.
  - Products covered under QCOs cannot be sold in the Indian market without BIS certification.

CLEARING CORPORATION OF INDIA (CCIL)

The RBI Governor has encouraged the Clearing Corporation of India (CCIL) to explore innovative settlement systems beyond the dollar-rupee to boost the rupee's international use.

About CCIL

- It was **established in 2001** by leading banks, financial institutions, and the Reserve Bank of India (RBI) to provide an efficient clearing and settlement system for India's financial markets.
- It acts as a **Central Counterparty (CCP)** for transactions in government securities, foreign exchange, money market instruments, and rupee derivatives, thereby reducing counterparty risk by becoming the buyer to every seller and the seller to every buyer.
- **Regulated by the RBI under the Payment and Settlement Systems Act, 2007,** CCIL plays a vital role in ensuring financial stability, market efficiency, and systemic risk reduction in India's financial ecosystem.
- CCIL is officially recognised by the **RBI as a Qualified Central Counterparty (QCCP),** a global standard reflecting its robust risk management and operational reliability.

BLUE PORTS

The Department of Fisheries has signed a Technical Cooperation Programme (TCP) agreement with the Food and Agriculture Organization (FAO) of the United Nations to strengthen Blue Port infrastructure in India.

About Blue Ports Framework

- **The TCP will provide** strategic and operational tools to design investment projects and address environmental, social, and economic challenges.
- **The Department of Fisheries (DoF)** is leading the development of Smart and Integrated Fishing Harbours under the Blue Ports framework, which **balances technological innovation with environmental stewardship.**
- Three pilot harbours namely **Vanakbara (Diu), Karaikal (Puducherry), and Jakhau (Gujarat),** have been approved with a total investment of **₹369.8 crores.**
- These harbours aim to modernize post-harvest fisheries infrastructure, ensuring:
  - Safer and more hygienic handling of fish catch.
  - Cleaner and more efficient harbour operations.
  - Better services and livelihoods for fishing communities.
- Supported under the **Pradhan Mantri Matsya Sampada Yojana (PMMSY),** the initiative integrates smart technologies such as **IoT devices, sensor networks, satellite communication, and data analytics** to streamline harbour operations and enable real-time decision-making.

Food and Agriculture Organization (FAO)

- FAO is a **specialized agency of the United Nations** that leads international efforts to defeat hunger and improve food security.
- **It was founded** on 16 October 1945.
- **Members:** The FAO comprises 195 members, including 194 countries and the European Union.
- **Headquarters:** Rome, Italy.

AFLATOXINS

Indonesia suspended imports of Indian groundnuts citing aflatoxin contamination.

About:

- Aflatoxins are toxic molds caused by **Aspergillus flavus and Aspergillus parasiticus fungi.**
- They contaminate grains and oilseeds, particularly in warm, humid conditions.
- They are considered **carcinogenic** and genotoxic.

Groundnut:

- Groundnut is a **tropical and subtropical crop.** It is an annual herbaceous plant growing **30 to 50 cm tall.**
  - It requires a warm, frost-free climate.
- Groundnut is raised in a sandy loam as well as well drained sandy clay loam soil.
- The peanut was probably first domesticated and cultivated in the **valleys of Paraguay.**
- **India** is the **second-largest producer** of groundnuts in the world.
- **India is among the largest exporters** of groundnuts, with major markets in Southeast Asia, Europe, and the Middle East.

MAITRI 2.0

The Indian Council of Agricultural Research (ICAR) launched the second edition of the Brazil–India Cross-Incubation Programme in Agritech (Maitri 2.0) in New Delhi.

About

- It is a two-way learning platform for co-creation between Indian and Brazilian innovators to build a stronger, innovative, and inclusive agri-food ecosystem for global food security.
- It aims to connect incubators, promote co-incubation, and foster collaboration in sustainable agriculture, digital tech, and value chains, helping build resilient food systems and empowering farmers through Indo-Brazilian innovation.
- Maitri 2.0 is a strategic step aligned with both nations' goals in agriculture, technology, and food security.

UNIFIED PAYMENTS INTERFACE

NPCI International Payments Ltd, in partnership with Qatar National Bank, has enabled the acceptance of QR code-based Unified Payments Interface (UPI) across Qatar.

About

- It is India's real-time instant payment system, developed by the **National Payments Corporation of India (NPCI)** in 2016.
- Through this, users can link and manage several bank accounts within one UPI-enabled app (such as Google Pay, PhonePe, Paytm, BHIM).
- Its Work on Immediate Payment Service (IMPS) infrastructure.
- UPI has become the **world's largest real-time payment system.** In 2024, UPI processed over 12 billion transactions monthly, accounting for over 65% of retail digital payments in India.
- Accepted internationally in countries like UAE, Nepal, Bhutan, France, Singapore, Sri Lanka, Mauritius, etc.

CLEAN PLANT PROGRAMME (CPP)

The Clean Plant Programme (CPP) is moving from vision to action, with field-level initiatives like nursery certification, training for authorities, crop-specific diagnostic protocols, and funding guidelines.

About:

- It was conceptualized by the **Ministry of Agriculture & Farmers Welfare** in collaboration with the **Asian Development Bank.**
  - The National Horticulture Board (NHB) implements schemes with ICAR, which guides technical progress and capacity building.

- It is a novel initiative aimed at ensuring **healthy, disease-free planting material** of key fruit crops.

Key Features of CPP

- **Farmers:** Access to virus-free planting material to boost yields and income.
- **Nurseries:** Streamlined certification and infrastructure support for clean propagation.
- **Consumers:** Delivers Superior, virus-free fruits with better taste and nutrition.
- **Exports:** Enhances India's position as a top global focusing on higher-quality, disease-free fruits.
- **Equity & Inclusivity:** Affordable access, women's participation, and region-specific varieties.

Mission LiFE (Lifestyle for Environment)

- It is an India-led global mass movement to nudge individual and community action to protect and preserve the environment.
  - It draws from India's rich cultural heritage, which promotes conservation of natural resources and harmony with nature.
  - It seeks to channel the efforts of individuals and communities into a global mass movement of positive behavioural change.

National One Health Mission:

- One Health is a multidisciplinary approach that unites human, animal, and environmental health sectors to solve the health, productivity, and conservation challenges.
  - In India, with its one of the largest livestock populations, diverse wildlife, dense human population, and diverse flora.

TEA SECTOR IN INDIA

The Executive Director of the International Tea Committee has said that India can become the superpower of the tea industry.

About:

- India is the **second-largest producer and consumer of tea** and the third-largest exporter.
- Of the total global tea output of 7.074 billion kg and consumption of 6.97 billion kg in 2024, **India produced 1.303 billion kg and consumed 1.22 billion kg.**

India's Tea Industry

- **Types of tea exported:** Primarily black tea (96%), with small quantities of regular, green, herbal, masala, and lemon tea.
- **India's Export destinations:** Over 25 countries, including UAE, Iraq, Iran, Russia, US, and UK.
- **Prominent tea regions:** Assam (Assam Valley, Cachar) and West Bengal (Dooars, Terai, Darjeeling).
- **Global reputation:** Indian teas, especially Assam, Darjeeling, and Nilgiri, are renowned for their quality.

Tea Board of India

- It was set up as a **statutory body in 1954** under the **Tea Act, 1953.**
- The Board's Head Office is situated in Kolkata.
- It was established for the purposes of **regulating the Indian tea industry and protecting the interests of tea producers in India.**
  - All teas produced in the tea growing areas of India are **administered by the Tea Board.**
- The Board consists of **32 Members,** including Chairman and Deputy Chairman appointed by the Government of India representing different sections of the Tea industry.

COFFEE BOARD OF INDIA

The Coffee Board of India runs awareness and training programs to boost app registrations for EU Deforestation Regulation compliance, ensuring coffee is deforestation-free post-December 2020.

The Coffee Board:

- It is a **statutory organization** constituted under **Section (4) of the Coffee Act, 1942** and functions under the administrative control of the **Ministry of Commerce and Industry.**
- The Board has a Central Coffee Research Institute at Balehonnur (Karnataka).
- The Board comprises 33 Members including the Chairperson.
- The Board is mainly focusing its activities in the areas of research, extension, development, market intelligence.

Important Facts

- India is now the seventh-largest coffee producer globally with exports reaching $1.29 billion in FY 2023-24, almost double the $719.42 million in 2020-21
- India's coffee is primarily grown in the ecologically rich Western and Eastern Ghats, areas famous for their biodiversity.
- **Karnataka leads** in production, contributing 248,020 MT in 2022-23, followed by Kerala and Tamil Nadu.

INDIA'S OUTWARD REMITTANCES

Outward remittances under RBI's Liberalised Remittance Scheme (LRS) fell 11% YoY in July 2025 to $2,452.93 million, mainly due to lower spending on travel and studies abroad.

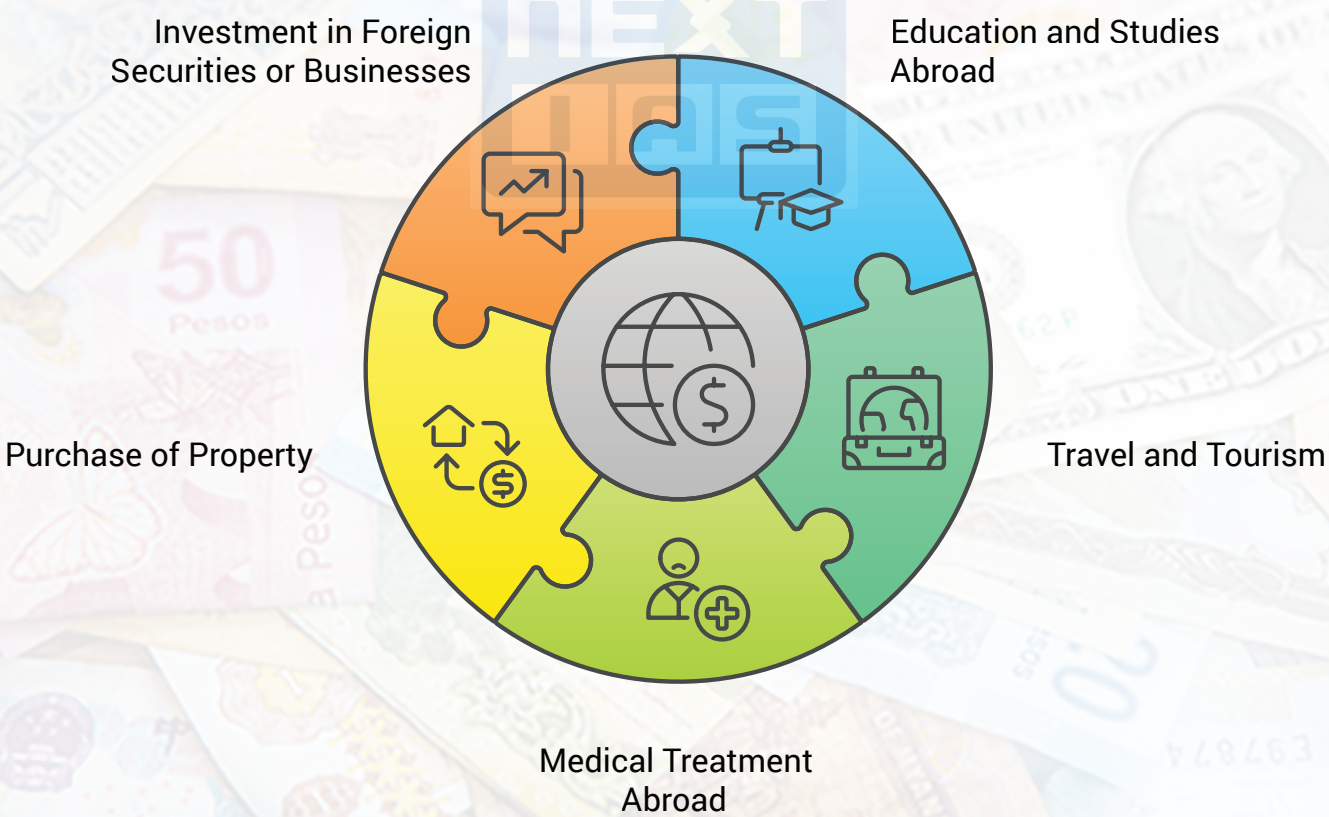
About Remittance:

- **Remittances** are a way to electronically send funds to people, often family, in another country.
  - Usually sent by individuals working in foreign countries, especially those employed in blue-collar or skilled jobs.
- **Remittances are a significant source** of income for many countries, contributing to their **economic stability,** supporting local economies, and sometimes helping to **finance national trade deficits.**
- **Modes of Transfer:** Remittances can be sent through banks, money transfer operators, or digital platforms.
- **Outward Remittance:** Outward remittance refers to the **transfer of money in foreign currency** by a resident of India to a person or entity outside India, for purposes such as education, travel, medical treatment, investment, or gifting.

What is the Liberalised Remittance Scheme (LRS)?

- LRS was introduced in 2004 by the Reserve Bank of India (RBI).
- It allows resident individuals (including minors) to remit up to **$250,000 per financial year** for permissible current or capital account transactions.
- Initially launched with a $25,000 limit, later increased to current levels.
- LRS is governed under the Foreign Exchange Management Act (FEMA), 1999.

Diverse Uses of Remittances



4 ENVIRONMENT

CONOCARPUS TREES

An expert panel (CEC – Central Empowered Committee) has recommended the Supreme Court to ban Conocarpus trees across India due to ecological harm and public health risks.

About

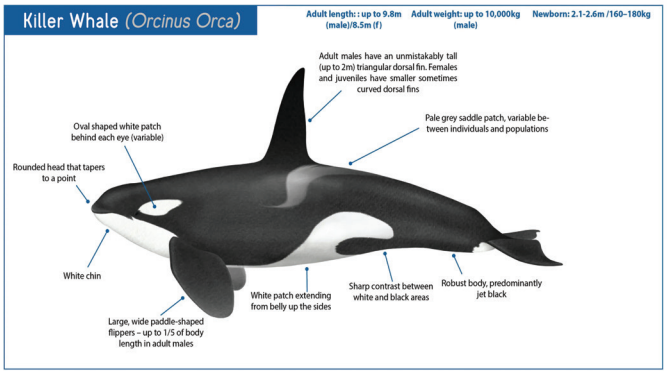
- **Scientific Name:** Conocarpus erectus (also called Buttonwood tree). Also caGreen Desert
- **Origin:** Native to tropical America (Bermuda → Brazil) & parts of West Africa, Somalia, Yemen, Arabian Peninsula.
- **Features:** Very fast-growing and creates a dense green canopy.
  - High water intake may stress groundwater in dry areas.
- Introduced in India (mainly Gujarat, Maharashtra, Telangana) for urban greening and roadside plantations due to its fast growth and ability to withstand saline & arid conditions.
- **MoEF&CC** to list Conocarpus as an invasive species.
- **Current Banned state:**
  - **Gujarat (2023)** – first to ban planting.
  - **Tamil Nadu (2025)** – second to prohibit.
  - **Hyderabad (GHMC)** – started roadside removal.

ORCAS

A new study has found that killer whales may be exploring human behaviour by offering them whole prey and waiting for them to respond.

About:

- **Scientific Name**: Orcinus orca
  - Also known as Orca (Killer Whale)
- **Type:** Mammals
- **Diet:** Carnivore
  - Average Life Span In The Wild: 50 to 80 years
  - Orcas are the largest species of dolphins
- **Family:** Delphinidae (they are the largest members of the dolphin family).
- **Distribution:** Found in all oceans — from Arctic and Antarctic regions to tropical seas.
- **Features:**
  - **Echolocation:** Use sound waves to navigate and hunt.
  - Distinctive black-and-white coloration with a white patch near each eye.
  - Highly intelligent and social animals, living in groups called **pods**
  - **Apex predators (no natural predators):** They hunt fish, seals, dolphins, sharks, and even large whales.



AIR QUALITY LIFE INDEX (AQLI) 2025

According to the Air Quality Life Index, India is the second most polluted country in the world.

About:

- The Air Quality Life Index (AQLI) is developed by Professor Michael Greenstone and the Energy Policy Institute at the University of Chicago (EPIC).
- It translates air pollution levels into their impact on life expectancy, offering hyper-local data to help users see how much longer people could live if pollution met various standards.
- It supports EPIC's Clean Air Program, which aims to inform policy and public action with high-quality pollution data.

Key Highlight of the report:

- **South Asia:** Most polluted region; Bangladesh worst with air 12 12 times dirtier than WHO limits.
- **China:** Cut pollution by 40.8% since 2014 via strict policies.
- **Africa:** In nations like Cameroon & DRC, pollution now shortens life expectancy more than HIV/AIDS or malaria.

Status In India:

- India's top health threat: Air pollution cuts life expectancy by 3.5 years — more than malnutrition or unsafe water.
- **Exposure:** All 1.4B Indians live above WHO PM2.5 limit (5 $\mu g/m^3$).
- **Worst-hit:** Delhi-NCR (–8.2 yrs), Other states like Bihar (5.6 years), Haryana (5.3 years), and Uttar Pradesh (5 years) also show severe losses.
- **High risk**: 46% people live above India's own weaker PM2.5 limit of 40 $\mu g/m^3$).

Initiatives Taken for Controlling Air Pollution

- **National Clean Air Programme (NCAP):** India aims to cut particulate pollution 40% by 2026 in 131 non-attainment cities, up from the earlier 20–30% by 2024 target.
- **SAFAR (System of Air Quality and Weather Forecasting and Research):** Launched by MoES, aims to provide real-time city and location-specific air quality data with 1–3-day forecasts and weather warnings for metro cities.
- **Turbo Happy Seeder Machine:** The government of Punjab and the center have been working to make sure there are sufficient machines to tackle the problem of burning stubble, which is a significant contributor to air pollution in the National Capital Region.
- **Particulate matter (PM):** Refers to a mix of solid particles and liquid droplets in the air, including visible particles like dust and soot, as well as tiny particles only detectable with an electron microscope.
  - PM is categorized mainly into PM10, which includes inhalable particles 10 micrometers or smaller.
  - PM2.5, which consists of finer inhalable particles 2.5 micrometers or smaller.

WHO Air Quality Guidelines:

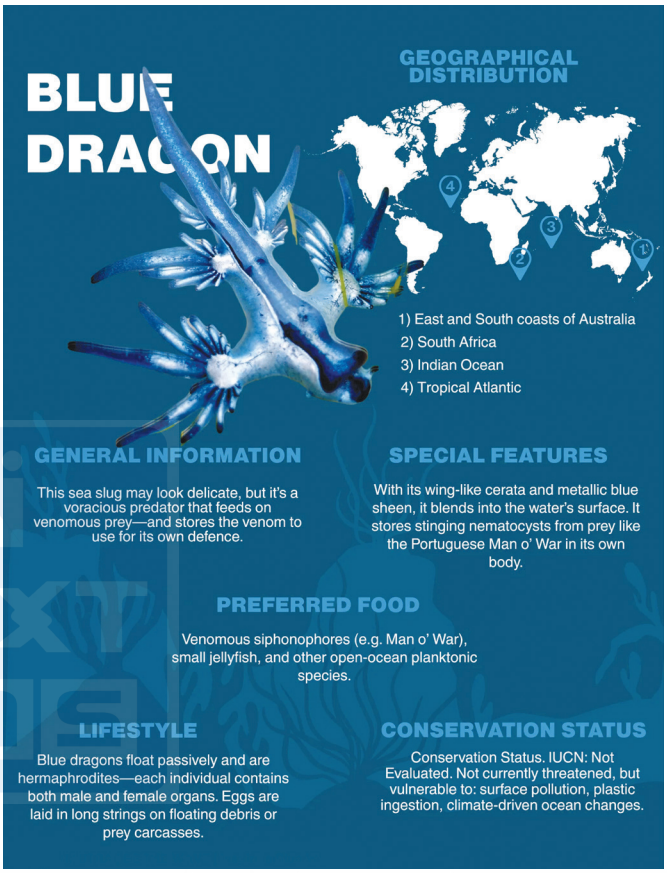
- The World Health Organization's Air quality guidelines (AQG) serve as a global target for nationals.
- Regional and city governments work towards improving their citizen's health by reducing air pollution.

BLUE DRAGON

Spain (Guardamar del Segura) closed beaches after an invasion of Blue Dragon sea slugs, which pose public health risks due to their venomous sting.

About:

- Known as the **"Blue Dragon"** or **Glaucus atlanticus.**
  - Conspicuously ornate with dark and light blue stripes,
  - It has three pairs of tendril-tipped appendages that spread like wings,
  - Getting shorter as they go down its body.
  - The nudibranch the appearance that is in flight.
- **Taxonomy:** Family ***Glaucidae***, Class Gastropoda
- **Carnivorous & Predatory:**
  - Their blue and white coloring helps them camouflage from predators.
  - Feed on venomous siphonophores like Portuguese Man o' War, Blue Button jellyfish, and By-the-wind sailor.
  - While their sting can cause severe pain and symptoms in humans, it is not deadly.
- Found in warm ocean waters worldwide (Atlantic, Pacific, Indian Oceans).
- Float upside down at the water's surface, using an air bubble for buoyancy.
- Blue dragons occasionally float together in a group, which is called a "blue fleet."
  - The group's greater mass can sometimes cause them to be washed ashore by oceanic winds and tide.



ROSEWOOD TREE

An IWST (Institute of Wood Science and Technology) study found Tamil Nadu has the lowest rosewood density in South India, with risks rising after its Rosewood (Conservation) Act, 1995 lapsed in 2025.

About Indian Rosewood (Dalbergia latifolia):

- It is also known as the ivory of the forests and is valued for its rich grain, deep color, and durability.
- Rosewood is valued for timber and supports soil, biodiversity, and carbon storage.
- It is native to India, Nepal, Bangladesh, Myanmar, Java, and Indonesia.
- In India, it is found from Bihar to Sikkim in the sub-Himalayan region, as well as in central, western, and southern parts of the country.
- It grows in various soil types but thrives best in well-drained, deep, moist soils.

Conservation status:

- It is listed under **Appendix II of CITES.**
- **IUCN** - Vulnerable (Since 2018)
  - Tamil Nadu Rosewood (Conservation) Act, 1995: Prohibited cutting without govt permission.

SENNA SPECTABILIS

Kerala's "Wayanad model" pioneered India's first science-based, community-led eradication of the invasive Senna spectabilis in Wayanad Wildlife Sanctuary.

About:

- Senna spectabilis was introduced in the 1980s in Kerala for shade, beautification, and firewood.
  - It has spread across the Nilgiri Biosphere Reserve, choking native plants and food sources for wildlife.
- **Native range:**
  - Tropical Areas of South America (Brazil, Peru, etc.)
  - **Ornamental use:** Commonly planted for its striking yellow flowers (avenue and garden tree).
- **Invasive species in India:** Introduced as an ornamental, but has become highly invasive in the Western Ghats, Kerala, and other regions.
- **Related Concerns:** Senna forms dense, sterile thickets, choking out native plants, altering soil chemistry, and depriving herbivores of food.
  - Reports of Senna proliferation are emerging from Andhra Pradesh, Goa, and parts of Maharashtra.
  - Conservationists warn that unless tackled early, these regions may repeat South India's mistakes.

GREAT INDIAN BUSTARD (ARDEOTIS NIGRICEPS)

The Environment Ministry's EAC has cleared an EIA for the Birmania Rock Phosphate Mine in Jaisalmer, located in the potential habitat of the Great Indian Bustard (GIB).

About

- The GIB is one of the **heaviest flying birds** in the world.
- GIB is one among four bustard species found in India, alongside the Lesser Florican, Bengal Florican, and Macqueen's Bustard.
- GIB is **omnivorous and vulnerable** to power line collisions due to **lack of frontal vision.**
- **Diet:** The great Indian bustard is an omnivore and feeds on insects, grass seeds, berries, rodents, and reptiles.
- **Habitat and distribution:** The Great Indian Bustard lives in arid grasslands and open landscapes, now mostly in Rajasthan with small groups in Gujarat, Maharashtra, Karnataka, and Andhra Pradesh.
  - India, holding over 90% of the remaining wild population.
- **Protection Status:**
  - **Wildlife Protection Act, 1972:** Schedule I
  - **IUCN:** Critically Endangered
  - **CITES:** Appendix I

Phosphate Rock:

- **About:** It refers to **any rock containing high phosphorus content**, used mainly for agricultural fertilizers.
  - It is an **essential element** that provides **vital nutrients to plants,** supporting their growth and development.
- **Formation:** Phosphate rock is a **sedimentary rock formed millions of years ago** through the accumulation of organic matter on the ocean floor. Most phosphate rock is mined using surface mining methods, including open-pit, dragline, and excavator mining.
- **Distribution:** The major reserves of phosphate rock are found in regions including **Africa, North America, Kazakhstan, and the Middle East**.
  - The largest deposits are located in Morocco, which is also a leading global producer of phosphate.
  - **In India,** phosphate rock is primarily produced in Rajasthan and Madhya Pradesh.

PALLAS'S CAT

A wildlife survey conducted in Arunachal Pradesh has brought out first-ever photographic evidence of the elusive Pallas's cat in the state.

About

- **Name:** Pallas's cat (Otocolobus manul).
- It is one of the **most elusive and rarely photographed wild cats,** and remains one of the least studied feline species.
- **Appearance:** Its coat is usually gray or light tan, but it can change color with the seasons to better blend into the local landscape.
- **Distribution:** Its documentation in Arunachal Pradesh extends the known distribution of the species in the eastern Himalaya, adding to earlier confirmed records from Sikkim, Bhutan, and eastern Nepal.
  - They are found in Turkmenistan, Iran, Kyrgyzstan, Kazakhstan, Bhutan, Nepal, India, Pakistan, Afghanistan, China, Mongolia, and Russia.
- **It is nocturnal, and an ambush predator,** meaning it waits at the exits of rodent burrows until its prey appears.
- **IUCN Status:** Least Concern.

SARISKA TIGER RESERVE

The Ministry of Environment, Forest and Climate Change (MoEFCC) will seek public objections before finalising Rajasthan's proposal to alter the Critical Tiger Habitat (CTH) boundaries in Sariska Tiger Reserve.

About:

- Located in Alwar district, Rajasthan.
- One of the largest and most renowned tiger reserves in Northern India.
- **Historical timeline:**
  - **Pre-Independence:** Hunting ground of the princely state of Alwar.
  - **1955:** Notified as a Wildlife Reserve.
  - **1978:** Declared the **11th Tiger Reserve** in India.
  - **1982:** Sariska Wildlife Sanctuary redesignated as **Sariska National Park.**

INDIA'S FIRST BAMBOO-BASED ETHANOL PLANT

Prime Minister Shri Narendra Modi inaugurated the Assam Bioethanol Plant and laid foundation stone for polypropylene plant at Numaligarh Refinery Limited (NRL) at Golaghat in Assam today. Aim promoting clean energy and reducing dependence on fossil fuels.

About Bioethanol:

- It is a **high-octane biofuel (C_2H_5OH)** produced biologically from biomass like corn, sugarcane, grains, bamboo and vegetable residues.
- It is mainly used as a gasoline additive, with engines now capable of burning pure ethanol.
- Key production steps include fermentation of sugars, pretreatment of starch or cellulose, distillation, and dehydration to fuel-grade ethanol
- **Economic Impact:**
  - The bioethanol plant will source 5 lakh tonnes of bamboo annually from Assam and other northeastern states. The project will benefit local farmers and tribal communities, providing a Rs 200-crore boost to Assam's rural economy.
  - After the amendment to the **Indian Forest Act, 1927,** bamboo is no longer classified as a tree, lifting the ban on its cutting. This change supports the livelihoods of forest communities and private growers.
  - It aligns with India's Viksit Bharat vision, focusing on hydrocarbon exploration and green energy initiatives, and aims to reduce dependence on fossil fuels.

Ethanol Blending:

- Ethanol blending refers to the practice of mixing ethanol with gasoline to create a fuel mixture that can be used in internal combustion engines.
- Ethanol feedstocks comprise sugary raw materials (sugarcane, molasses, sweet sorghum, sugar beet, amongst others) or starchy (broken rice, corn, and cassava).
- The **'National Policy on Biofuels'** notified by the government in 2018 envisaged an indicative target of **20% ethanol blending in petrol by 2030.**
- Given the encouraging performance and various interventions made by the government since 2014, **the 20% target was advanced to 2025-26.**
- Ethanol blending in petrol has already touched the 20% mark, and the next frontier will be using ethanol to produce sustainable aviation fuel.

CICADAS

Kerala's Silent Valley National Park, a biodiversity hotspot in the Nilgiri Biosphere Reserve (UNESCO World Heritage Site), has recently reported the return of cicadas.

About:

- It is a conspicuous group of insects, mainly found in warm and temperate biomes across the world.
- They are known for their unique sound production (tymbals), often used to attract mates.
- They act as bioindicators, reflecting the health of ecosystems.
- Cicadas had reportedly declined due to deforestation, climate stress, and human interference.
- **Habitat:** Most cicadas live in the forest canopy and are typically found in natural forests with large trees.

INDIA'S FIRST BAMBOO-BASED ETHANOL PLANT

The Prime Minister inaugurated India's first bamboo-based bioethanol plant in Golaghat, Assam, marking a major step toward energy self-sufficiency and green energy promotion

About Bioethanol:

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KOALAS

Australia has approved the first vaccine to protect its shrinking koala population against chlamydia.

About:

- The koala (Phascolarctos cinereus) is a **tree-dwelling marsupial native** to **Australia.**
  - Often mistakenly called the **"koala bear,"** it is **not a bear** but a **marsupial** (a mammal that carries its young in a pouch).
- **Physical appearance:** Thick, soft, grey or brown with lighter underside – provides insulation.
  - Large and black, with a strong sense of smell (helps detect eucalyptus leaves).
- **Habitat & Distribution:**
  - Found mainly in eastern and southeastern Australia (Queensland, New South Wales, Victoria, South Australia).
- **Diet:** Herbivores – almost entirely eat **eucalyptus leaves.**
- **Behavior:** Mostly nocturnal and sedentary.
- **Threats:** Along with habitat loss, climate change and bushfires, a major reason for koalas' vulnerability is chlamydia.
- **IUCN Red list:** Vulnerable

EUSTOMA FLOWER

CSIR–NBRI (National Botanical Research Institute), Lucknow achieved a breakthrough by cultivating Eustoma for the first time in Odisha, blooming in a polyhouse at Sanatanpali, Sambalpur.

About the Eustoma (Eustoma grandiflorum):

- Eustoma, also known as **Lisianthus** or **Prairie Gentian**, is a herbaceous annual flower from the gentian family.
- **Family:** Gentianaceae
- **Native Region:** Mexico and North America
- **Cultivation requirements:**
  - Grows in rich, well-drained soil with full sunlight.
  - Needs regular moisture but sensitive to overwatering.
- **Key Characteristics:**
  - Because of its enormous rose-like blossoms, long stems, and extended vase life.
  - Its sales have increased dramatically in recent years, earning it the title of the ***"next rose"***.

ASPERGILLUS SPECIES IN WESTERN GHATS

Scientists have discovered two new black aspergillus fungi species, Aspergillus dhakephalkarii and Aspergillus patriciawiltshireae, in the Western Ghats of India.

About Research:

- Scientists associated with the MACS-Agharkar Research Institute (ARI), Pune, an autonomous institute under the Department of Science & Technology, Government of India, have discovered two novel fungal species belonging to ***Aspergillus* section *Nigri*** also known as a **black aspergilli.**
  - The newly identified species have been named **Aspergillus Dhakephalkarii** and **Aspergillus Patriciawiltshireae.**
- The first geographic record of two black aspergilli, A. Aculeatinus and A. ***Brunneoviolaceus***, from soil samples collected from the Western Ghats.
  - A UNESCO World Heritage biodiversity hotspot.

Features of Species:

Aspergillus Dhakephalkarii:

- It is characterized by rapid colony growth. Also producing pale to dark brown conidia and yellowish-white to yellowish-orange sclerotia.
- Its uniseriate conidiophores branch into two to three columns.
- It has produced smooth-walled, ellipsoidal conidia, distinguishing it from related species that typically have spherical, echinulate conidia.
- A Phylogenetic study dhakephalkarii as a sister species to A. saccharolyticus,

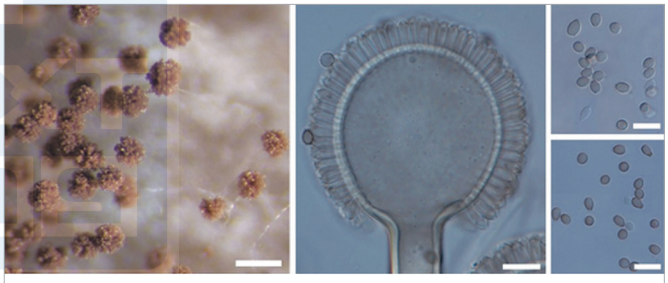


Figure: *Aspergillus Dhakephalkarii*

Aspergillus Patriciawiltshireae:

- patriciawiltshireae also exhibits fast-growing colonies with abundant sclerotia on Czapek Yeast Autolysate Agar (CYA) and Malt Extract Agar (MEA).
- It is produced yellowish-orange sclerotia across different media, though it shows modest sporulation.
- It features echinulate conidia and uniseriate conidiophores that branch into more than five columns.
- A Phylogenetic study patriciawiltshireae is closely related to A. indologenus, A. japonicus, and A. uvarum in series Japonici.

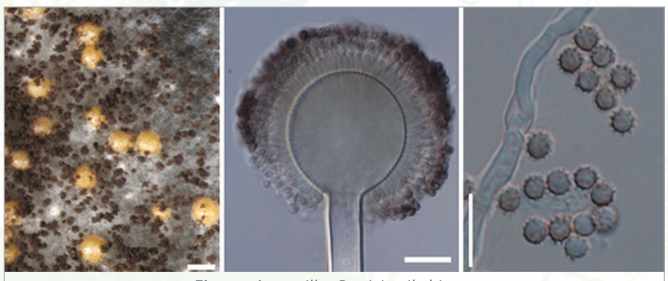


Figure: *Aspergillus Patriciawiltshireae*

Black Aspergilli:

- The genus **Aspergillus** comprises a diverse group of filamentous fungi that are ubiquitously distributed across various ecological niches and are of considerable medical, industrial, and ecological significance.
- Black Aspergilli are known as workhorses of industrial application especially in citric acid production, food mycology, fermentation technology, and agriculture.
- It is the phosphate solubilisation.

OZONE HOLE GROWTH

Antarctica's ozone hole expanded to 20 million sq. km in 2025.

About:

- It is not a literal hole but a region of severely **depleted ozone in the stratosphere over Antarctica**, occurring during the **Southern Hemisphere spring** (Aug–Oct).
- It was **first detected in 1985** and is caused by harmful substances like chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HFCs) that thin the ozone layer, increasing harmful UV radiation on Earth.
- **Factors** like polar stratospheric clouds, volcanic eruptions (e.g., Hunga Tonga in 2023), and climate change (which strengthens the polar vortex) influence ozone depletion.
  - Phytoplankton habitats in the Arctic are shifting due to changing UV exposure, affecting marine ecosystems.

About Ozone

- Ozone (O_3) is a gas made of three oxygen atoms, found **naturally** in the **atmosphere.**
- In the stratosphere (10–50 km above Earth), it forms the **"good ozone" layer that protects life by absorbing harmful ultraviolet (UV) radiation.**
  - This ozone is created and destroyed through natural processes but is being damaged by human-made chemicals like CFCs, leading to ozone depletion and increased UV exposure.
- In contrast, **"bad ozone"** at ground level (in the troposphere) is formed by pollution from vehicles and industries reacting with sunlight. It is harmful to humans and the environment, causing respiratory problems and worsening conditions like asthma.

YELLOW-CRESTED COCKATOOS

Recently, yellow-crested cockatoos have found an unexpected refuge in Hong Kong's urban parks.

About:

- It lives in various forest types, scrub, and agricultural areas.
- It prefers open habitats like forest savanna rather than primary forests.
  - Native to Indonesia and East Timor.
- **It nests in tree cavities**, often in dead or decaying trees, using existing holes or cracks.
- **Its diet** includes fruits, flowers, and leaves from multiple plant species.
- **IUCN Red Status:** Critically Endangered

KADAMB TREE

King Charles III of the United Kingdom sent a Burflower tree, commonly referred to as kadamb tree, to the Indian Prime Minister as a gift on his birthday.

About Kadamb Tree (Neolamarckia Cadamba)

- The kadamb tree is an **evergreen, tropical tree** native to South and Southeast Asia. It can grow up to **45 m tall.**
- **Distinct Features:** Known for its **fragrant orange flowers** that bloom in dense, globe-shaped clusters.
- **Historical Connections:**
  - **Kadamba Dynasty:** The tree lent its name to the **Kadamba dynasty** which ruled from Banavasi in present-day Karnataka from 345 CE to 525 CE, as per **Talagunda inscription.**
  - The tree was considered a holy tree by the Kadamba dynasty.
  - **Athmallik State Emblem:** The kadamba flower served as the emblem of Athmallik, a princely state during the British Raj.

HANGUL DEER

Three generations of a Kashmiri family have been involved in protecting the Hangul Deer in Dachigam National Park.

About:

- It is also known as **Kashmir stag and is a subspecies of Central Asian red deer** that is endemic to Kashmir and surrounding areas.
- **Habitat and Distribution:** It inhabits deciduous woodlands, alpine meadows, and mountainous areas, preferring oak, mulberry, and riverine habitats in winter, and oak-conifer forests in summer for better food availability.
  - It was once found across the Himalaya, Chenab Valley, and parts of Himachal Pradesh, but now survives within Dachigam National Park(Kashmir).
- **Threats:** Hangul decline is mainly due to poaching, habitat pressure from insurgents, herders, and livestock competition.
- **IUCN Red List status:** Critically Endangered.

SMOG EATING PHOTOCATALYTIC COATINGS

The Delhi government is going to conduct a time-bound feasibility study on the use of "smog-eating" photocatalytic coatings on roads, pavements and public.

About:

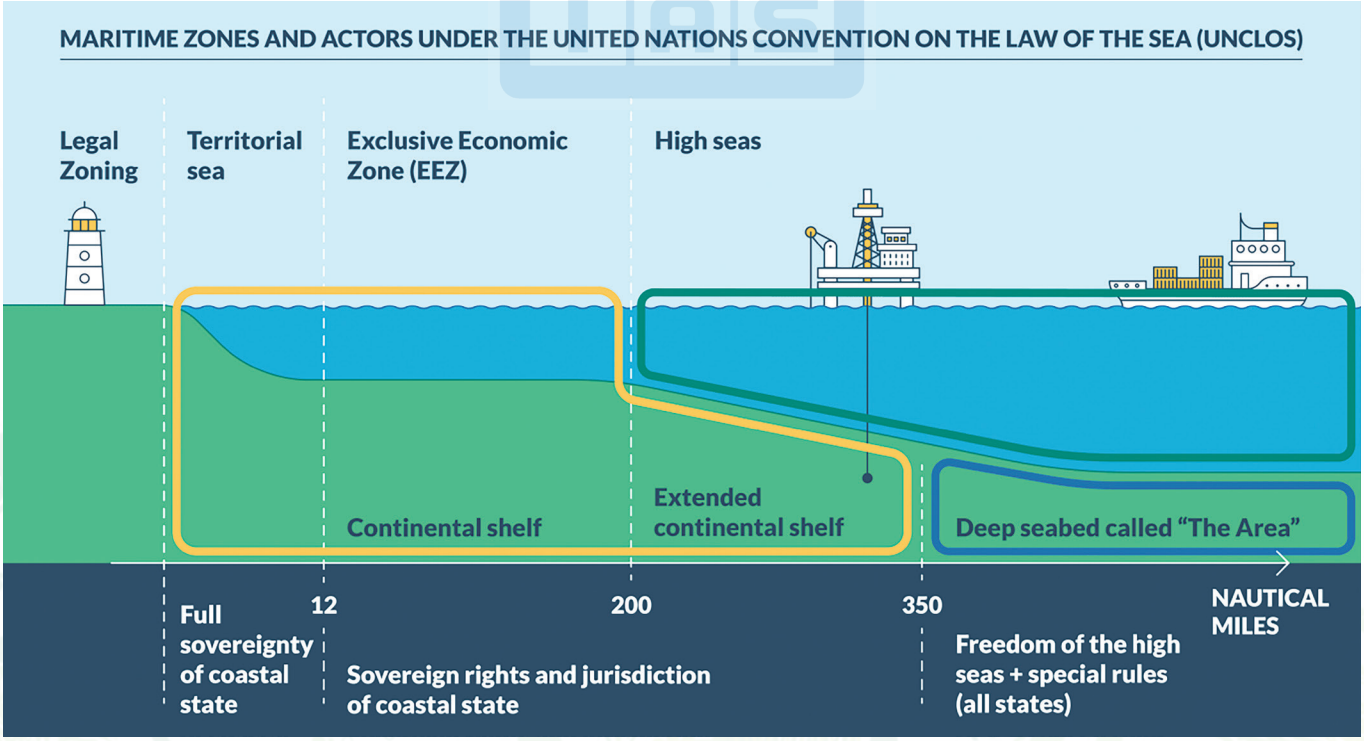
- Smog-eating photocatalytic coatings aim to **reduce nitrogen dioxide (NO_2) and harmful hydrocarbons** in public spaces, thereby improving air and water quality.
- These coatings are designed for urban environments to mitigate air pollution by breaking down NO_2 and volatile organic compounds (VOCs).
- These coatings contain materials, most commonly titanium dioxide (TiO_2), which serve as a photocatalyst.
  - When exposed to light (primarily ultraviolet), TiO_2 becomes activated and initiates chemical reactions that break down airborne pollutants.
  - It converts them into harmless byproducts like water, carbon dioxide, and nitrate compounds.

HIGH SEAS TREATY

The BBNJ (Marine Biological Diversity of Areas Beyond National Jurisdiction) treaty will enter into force in 2026 after 60 ratifications, with 143 countries, including India, signed.

About the BBNJ Treaty

- It is the **UN High Seas Treaty**, formally the Agreement under UNCLOS on the Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction (BBNJ).
  - It builds on the **UN Convention on the Law of the Sea (UNCLOS)**, often referred to as the **'Constitution For The Oceans',** adopted in 1982 and effective since 1994.
- It aims to protect biodiversity in the high seas — beyond national jurisdictions — and supports the **Kunming-Montreal Global Biodiversity Framework** goal of conserving 30% of land and sea by 2030.
  - Currently, **only 1.44% of the high seas** are under **any form of protection.**
- **It establishes legally binding rules to:**
  - Create **Marine Protected Areas (MPAs)** in international waters; At present, **6.35% of the ocean is protected**, with just **1.89% designated as no-take MPAs**, where extractive activities are prohibited.
  - Ensure fair and equitable sharing of benefits from **Marine Genetic Resources (MGRs);**
  - **Mandate Environmental Impact Assessments (EIAs)** for activities like deep-sea mining and carbon sequestration.



CENTRAL POLLUTION CONTROL BOARD

The Central Pollution Control Board (CPCB) celebrated its 51st Foundation Day.

About:

- It is a **statutory organization** established in September 1974 under the **Water (Prevention and Control of Pollution) Act, 1974**, and later empowered under the Air (Prevention and Control of Pollution) Act, 1981.
- It also supports the Ministry of Environment under the Environment (Protection) Act, 1986.
- CPCB's primary functions include promoting the **cleanliness** of **water bodies** and **improving air quality** by preventing and controlling pollution.
- To manage air quality, CPCB runs the National Air Monitoring Programme (NAMP) to track pollution trends and support planning and industrial regulation.
- It also operates an **automated air quality monitoring station** at ITO, New Delhi, regularly measuring pollutants.

MISSION MAUSAM

The National Centre for Medium Range Weather Forecasting (NCMRWF) and New Space India Limited (NSIL) signed an MoU to set up two Direct Broadcast Network (DBNet) stations in Delhi/NCR and Chennai under Mission Mausam.

About Direct Broadcast Network (DBNet):

- It is a **global operational framework** designed for the real-time acquisition of satellite data from Low Earth Orbit (LEO) satellites.
- It plays a critical role in **Numerical Weather Prediction (NWP)** and supports a wide range of applications, including weather forecasting, cyclone monitoring, and climate research.
- It ensures rapid data availability by directly processing satellite signals within minutes, improving the accuracy and timeliness of weather forecasts and services.

Mission Mausam

- Approved by the Union Cabinet in September 2024, it is a **₹2,000 crore Ministry of Earth Sciences initiative** to make India "Weather Ready" and "Climate Smart."
- Enhance India's weather forecasting across short-term, medium-term, extended-range, and seasonal scales.
- Develop high-resolution models for more accurate monsoon predictions.
- Strengthen observational networks using advanced radars, satellites, and automated weather stations.

INDIA'S FIRST DUGONG RESERVE

India's first Dugong Conservation Reserve in Palk Bay, Tamil Nadu, has received international recognition after the IUCN formally adopted a motion endorsing it at the World Conservation Congress 2025 in Abu Dhabi.

About the Dugong Conservation Reserve

- It was established in 2022 by the Tamil Nadu government under the **Wildlife Protection Act, 1972.**
- It is home to 12,250 hectares of **seagrass meadows**, crucial feeding grounds for dugongs.

About Dugong

- The **dugong is a large, herbivorous marine mammal** found throughout the Indo-Pacific region, including the warm coastal waters of the Indian and Pacific Oceans.
- In India, dugongs inhabit the Gulf of Mannar, Palk Bay, Gulf of Kachchh, and the Andaman and Nicobar Islands.
- They are highly **dependent on seagrass meadows**, both as habitat and for food, and prefer warm, shallow bays or mangrove channels.
- Major threats include habitat degradation, destructive fishing practices, hunting, and climate change.
- **Protection status:**
  - **IUCN Red List:** Vulnerable
  - **India's Wildlife Protection Act, 1972:** Schedule I

STATE OF THE RHINO REPORT

Rhino populations have stabilised at around 27,000 globally, down from 500,000 a century ago, according to the latest State of the Rhino report by the International Rhino Foundation.

About Rhinoceroses:

- They are large, herbivorous mammals that can be identified by their characteristic horned snouts.
- Rhinos are a **keystone megafauna species**, vital for ecosystem balance.
- **Types:** There are five rhino species spread throughout Asia and Africa.
  - These include two African rhino species - black and white rhinos.
  - The remaining three are Asian rhino species, which include greater one–horned, Sumatran and Javan rhinos.
- **Habitats:** Tropical and subtropical grasslands, savannahs and shrublands, tropical moist forests, deserts and shrublands.
- **Threats:** Poaching, habitat loss, population fragmentation, and climate change further endanger rhinos.

THE RHINO FAMILIES				
Species	**Native Lands (Origin)**	**Habitat**	**IUCN Status**	**Unique Features**
Black Rhino (Diceros bicornis)	Sub-Saharan Africa – Namibia, South Africa, Kenya, Tanzania.	Arid and semi-arid savannas, grasslands, shrublands.	Critically Endangered.	Hook-shaped prehensile upper lip for browsing twigs/leaves. Key browser species → prevents bush encroachment.
White Rhino (Ceratotherium simum)	Southern Africa – South Africa, Namibia, Zimbabwe, Botswana.	Grasslands and savanna ecosystems.	Near Threatened (Southern); Northern → Functionally extinct	Square-shaped wide mouth adapted for grazing. Largest living rhino species; 2nd largest land mammal after elephants.
Greater One-Horned Rhino (Rhinoceros unicornis)	India (Assam, West Bengal, Uttar Pradesh) & Nepal (Terai grasslands).	Floodplain grasslands, swamps, riverine forests	Vulnerable	Single horn (25–60 cm). Armour-plated skin folds. Flagship species of Kaziranga (India) & Chitwan (Nepal). Conservation success under Indian Rhino Vision 2020.
Sumatran Rhino (Dicerorhinus sumatrensis)	Indonesia – Sumatra, Borneo (formerly throughout South East Asia).	Dense tropical rainforests, swamps, highland forests.	Critically Endangered.	Smallest and hairiest rhino. Two horns; needs dense forest cover. Severely fragmented population → genetic bottleneck. Nicknamed the "Asian Woolly Rhino."
Javan Rhino (Rhinoceros sondaicus)	Once widespread – Java, Sumatra, India, SE Asia. Current range: Only in Ujung Kulon National Park, Indonesia.	Tropical lowland rainforest.	Critically Endangered.	Smallest horn of all rhinos (rarely over 25 cm). Most threatened species, confined to single site. Extremely shy and elusive. Survival largely due to Ujung Kulon protection.

INDIA'S FIRST VULTURE CONSERVATION PORTAL

WE Foundation India with Gauhati University launched The Vulture Network on 2 Sept 2025, India's first cloud-based vulture conservation portal for data, awareness, and networking.

About Vultures:

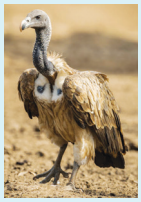
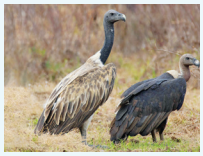
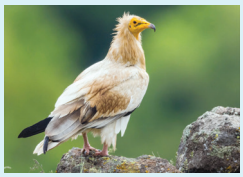
- They are large, social raptors that live on every continent except Antarctica and Australia.
- The 23 species are divided into New World vultures from the Americas and Old World vultures from Europe, Asia, and Africa.

Vultures Status in India:

- India has **nine species of vultures** in the wild and their IUCN Red list status are mentioned below:

VULTURES STATUS IN INDIA

India has nine species of vultures in the wild and their IUCN Red list status are mentioned below:

Vulture Species Name	IUCN Red List	Indian Legal Status
White-rumped Vulture (Gyps bengalensis)	Critically Endangered	**Wildlife (Protection) Act, 1972:** Schedule I **CITES:** Appendix II
 Indian Vulture (Gyps indicus)	Critically Endangered	**Wildlife (Protection) Act, 1972:** Schedule I **CITES:** Appendix II
 Slender-billed Vulture (Gyps tenuirostris)	Critically Endangered (730-870 Left)	**Wildlife (Protection) Act, 1972:** Schedule I **CITES:** Appendix II
Red-headed Vulture (Sarcogyps calvus)	Critically Endangered	**Wildlife (Protection) Act, 1972:** Schedule I **CITES:** Appendix II
Himalayan Griffon (Gyps himalayensis)	Near Threatened	**Wildlife (Protection) Act, 1972:** Schedule I **CITES:** Appendix II
Cinereous Vulture (Aegypius monachus)	Near Threatened	**Wildlife (Protection) Act, 1972:** Schedule I **CITES:** Appendix II
Eurasian Griffon (Gyps fulvus)	Least Concern (but declining)	**Wildlife (Protection) Act, 1972:** Schedule I **CITES:** Appendix II
 Egyptian Vulture (Neophron percnopterus)	Endangered	**Wildlife (Protection) Act, 1972:** Schedule I **CITES:** Appendix II
Bearded Vulture (Gypaetus barbatus)	Near Threatened	**Wildlife (Protection) Act, 1972:** Schedule I **CITES:** Appendix II

Threats:

- **Carcass Poisoning:** Pesticides, pesticides-laced carcasses kill vultures.
- **Veterinary Drugs:** Diclofenac, Aceclofenac, Ketoprofen → kidney failure in vultures.
- **Habitat Loss & Food Scarcity:** Decline of wild ungulates and carcass dumps.
- **Negative Social Perceptions:** Seen as dirty/scavengers.
- **Electrocution & Collision:** Power lines and wind turbines.

Conservation Measures in India:

- **National Board for Wildlife (NBWL):** Identified vultures as priority species.
- **National Vulture Action Plan (2020–2025):**
  - Restrict veterinary drugs harmful to vultures.
  - Establish captive breeding & release programmes.
  - Create **Vulture Safe Zones (VSZs)** in multiple states.
- **Drug Regulation:** Ban on veterinary use of **diclofenac** (2006), with restrictions on diclofenac and ketoprofen.
- **Breeding Centres:** Pinjore (Haryana), Rani (Assam), Buxa (West Bengal), Satpura (Madhya Pradesh), Hyderabad (Telangana), Junagadh (Gujarat).
- **SAVE (Saving Asia's Vultures from Extinction):** Regional partnership including India, Nepal, Pakistan, Bangladesh.

5 GEOGRAPHY

NATURAL GAS DISCOVERY IN ANDAMAN BASIN

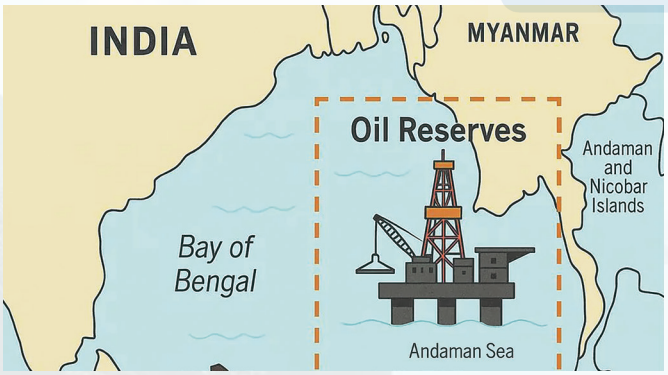
Oil India Ltd (OIL) has reported a significant natural gas discovery off the Andaman Islands and marking the first confirmed hydrocarbon occurrence in the region.

About:

- Natural gas is a clean-burning fossil fuel composed mainly of methane (CH4), formed from the decomposition of plant and animal matter over millions of years beneath the Earth's surface.
- The United States is the world's top natural gas producing country, followed by Russia. Other major producers include Iran, China, and Canada

Hydrocarbon Potential of Andaman Basin

- **Hydrocarbon Resource Assessment Study:** Estimates 371 MMTOE (Million Metric Tons of Oil Equivalent) in the AN Basin.
- It is part of the **Bengal-Arakan sedimentary system.**
- Lies at the **tectonic boundary of the Indian and Burmese plates** lead to the creation of stratigraphic traps conducive for hydrocarbon accumulation.
- Previous gas finds in North Sumatra (Indonesia) and Irrawaddy-Margui (Myanmar) suggest similar potential in Andaman.



Government Initiatives for Gas Exploration

- **Hydrocarbon Exploration and Licensing Policy (HELP), 2016:** Uniform license for exploration and production; introduced Open Acreage Licensing Policy (OALP).
- **National Deep Water Exploration Mission**: Focused on drilling a large number of deepwater wells to exploit offshore reserves.
- **National Data Repository & National Seismic Program:** Enhance data access for explorers.
- **FDI Policy:** 100% FDI allowed in the natural gas sector under automatic route.

MACHU PICCHU

Around 900 tourists have been left stranded near Peru's ancient Inca citadel of Machu Picchu after passenger train services were suspended due to protests.

About:

- Machu Picchu is a 15th-century Inca citadel located in the Eastern Cordillera of southern Peru, perched at **2,430 meters** above sea level.
- Often called the **"Lost City of the Incas"**, it is one of the most iconic symbols of the **Inca civilization.**
- **Constructed in classical Inca style** with finely crafted dry-stone walls, its notable structures include the **Temple of the Sun**, the **Temple of the Three Windows**, and the **Intihuatana stone.**
- **Recognitions:**
  - Declared a National Historic Sanctuary by Peru in **1981.**
  - Inscribed as a **UNESCO World Heritage Site** in **1983.**

SUPER TYPHOON RAGASA

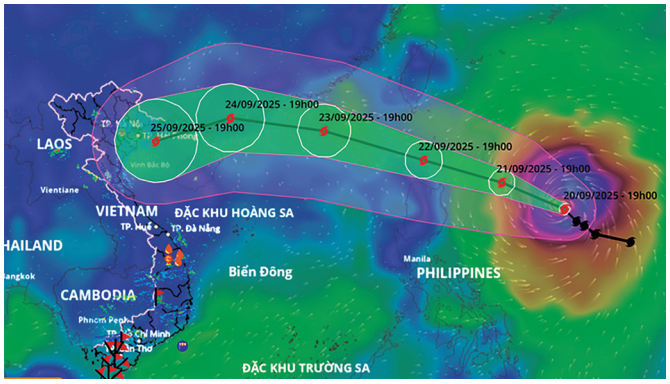
Super Typhoon Ragasa, one of the most intense tropical cyclones of 2025, reached peak winds of 280 kmph, impacting the Hong Kong region.

About

- A super typhoon is a very violent storm, equivalent to a **Category 5 hurricane, packing winds of 253km/h (157 mph).**
  - Typhoons, including a super typhoon, generally form in the West Pacific, close to places like China, Japan, and the Philippines.
- Tropical cyclones like **super typhoons** are warm-core low-pressure systems that exhibit a spiral inflow near the ocean surface and a spiral outflow at the upper levels of the atmosphere.
- They typically develop at **latitudes greater than 5°** away from the equator to benefit from the Coriolis force necessary for rotation.

Terminology for Tropical Cyclones by Region:

- **Hurricane:** Occurs in the North Atlantic, Eastern North Pacific, and South Pacific Oceans.
- **Cyclone:** Found in the Indian Ocean.
- **Typhoon:** Develops in the Western North Pacific Ocean.
- **Willy-willy:** Term used in the eastern part of the Southern Indian Ocean for tropical cyclones.



TIRAH VALLEY

Pakistan's air force launched eight LS-6 precision-guided glide bombs on villages in the Tirah Valley of Khyber Pakhtunkhwa.

About:

- **Location:** The Tirah Valley is a mountainous and strategically important region in **Khyber Pakhtunkhwa,** Pakistan,
  - Located near the **Pakistan–Afghanistan border.**
  - It lies between the **Khyber Pass and the Khanki Valley** and stretches across the Khyber and Orakzai districts.
- **Tribal Inhabitants:** The valley is primarily inhabited by **Afridi and Orakzai** Pashtun tribes.
- **Terrain:** The landscape is rugged and mountainous, with several sub-valleys, including **Maidan, Rajgul, Waran, Bara, and Mastura.**

MINI-CLOUDBURSTS

The India Meteorological Department (IMD) has stated that while there is no significant rise in cloudburst events, the occurrence of mini-cloudbursts (≥5 cm rain/hour) is increasing.

About:

- **Cloudburst:** Heavy rainfall of 10 cm or more in an hour over an area of 20–30 sq. km.
- **Mini-cloudburst:** Rainfall of 5 cm or more in an hour.
- **Forecasting:** IMD notes that such events are currently impossible to predict with existing technology.

Features:

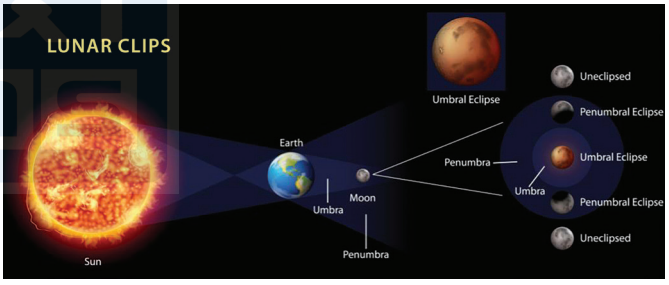
- Occur more often than full cloudbursts.
- Short-range prediction is not possible; only nowcasting of heavy clouds or rain is feasible.
- Frequently unrecorded in remote areas due to sparse ground stations, and satellite imagery provides limited accuracy.

LUNAR CLIPS

A total lunar eclipse will take place on the night of 7th September 2025, during which the Moon will pass entirely into the Earth's shadow

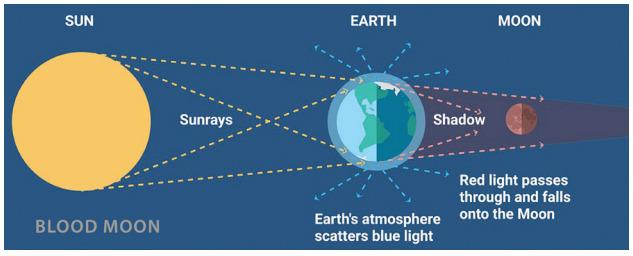
About:

- A lunar eclipse occurs when Earth comes between the Sun and the Moon, blocking sunlight from reaching the Moon.
- It can only happen during a full moon. A lunar eclipse can be seen from Earth at night.
- **There are three types of lunar eclipses:** Total Lunar Eclipse: Moon fully enters Earth's shadow, appears red due to sunlight filtered through Earth's atmosphere.
- **Partial Lunar Eclipse:** Only part of the Moon enters Earth's shadow; visibility depends on Sun-Earth-Moon alignment.
- **Penumbral Lunar Eclipse:** Moon passes through Earth's outer shadow (penumbra).



Blood Moon

- **Definition:** The Moon appears reddish or coppery during a total lunar eclipse.
- **Frequency:** Happens 2–3 times a year during total lunar eclipses.
- **Cause of Color:** Earth's atmosphere refracts sunlight, scattering shorter blue wavelengths.
  - Red and orange wavelengths pass through and fall on the Moon, giving it a deep red or reddish-orange.



6 INTERNAL SECURITY

APK FRAUD IN INDIA

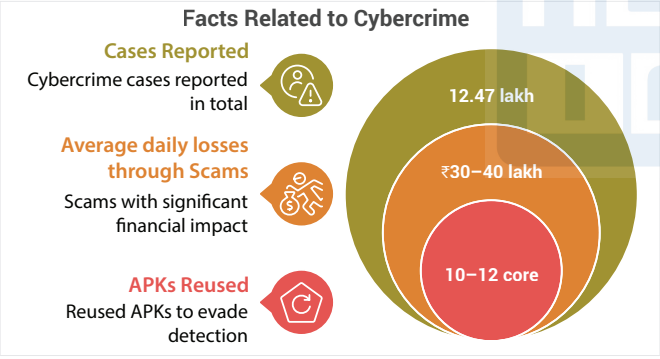
India has witnessed a 900% surge in cybercrime cases between 2021 and 2025. A major driver of this rise is APK fraud, where malicious Android apps are used to steal money and sensitive data from unsuspecting users.

About:

- **APK (Android Package Kit)** is the file format used to install apps on Android, similar to **.exe files in Windows**.
- In APK fraud, cybercriminals design **fake apps** that look identical to official portals such as banks, PM-Kisan, electricity boards, or tax refund websites.
- These malicious apps are spread mainly through **WhatsApp, Telegram, social media, and the dark web**.

How does it Work?

- The victim receives a fake urgent **call or message** with a link to download the app.
- The app installs easily and requests **permissions** (contacts, SMS, notifications, location).



- Once installed, it runs silently in the background, stealing banking details, OTPs, contacts, and location data.
- Stolen money is funneled through mule accounts and cryptocurrency channels, making recovery nearly impossible.

INS ARAVALI

The Indian Navy has commissioned its new base, INS Aravali, at Gurugram to boost its information and communication infrastructure.

About

- **Location:** Situated in Gurugram, Haryana, away from the coast, the base is designed as a **technology and communication hub**.
- **Functions:** It will support **information flow, network-centric operations, and maritime domain awareness** by connecting naval platforms, coastal units, and international partners.
- **Significance:** Part of the Navy's push to develop **secure and resilient communication systems** vital for modern warfare.
- **Impact:** Enhances operational readiness and strengthens India's maritime security architecture in the Indian Ocean Region (IOR).

CHINA'S NEW AIRCRAFT CARRIER 'FUJIAN'

The Fujian sailed through the Taiwan Strait for the first time during sea trials, raising fresh concerns about regional security.

About:

- The **Fujian**, China's newest aircraft carrier, is undergoing sea trials and has headed to the **South China Sea** for training and experiments.
- The **Taiwan Strait**, which separates China and Taiwan, remains a sensitive waterway as Beijing considers Taiwan part of its territory.
- **Japan** also reported sighting the Fujian near the disputed **Senkaku/Diaoyu Islands**, where it was escorted by two destroyers.

SUSPENSION OF OPERATIONS (SoO) PACT IN MANIPUR

The Union Home Ministry and the Manipur government signed a fresh SoO pact with Kuki-Zo insurgent groups to restore peace in the state.

Background

- The Kuki-Zo Council (KZC) agreed to open NH-2 (Imphal–Dimapur highway) for free movement of people and goods.
- However, COCOMI, a Meitei civil society group, opposed the agreement, arguing it undermines Meitei interests and goes against the 2023 State Cabinet decision to end the Suspension of Operations (SoO) pact.
- COCOMI claims that Kuki-Zo groups are still involved in violent and unlawful activities.

About SoO Pact:

- The Suspension of Operations (SoO) is a ceasefire agreement between the government and insurgent groups.
- Under the pact, groups must stop violence, stay in designated camps, and receive basic government support while peace talks continue.

Provisions of the New Pact

- Kuki-Zo groups will relocate camps away from highways, populated areas, and the Myanmar border.
- They will not recruit new members, launch offensive actions, or collaborate with other armed groups (domestic or foreign).

Kuki-Zo Groups

- The Kuki-Zo people are an ethnic community spread across **Manipur, Mizoram, Nagaland, Assam, and Myanmar.**
- They share close ethnic and cultural ties with other **Chin–Mizo groups of Myanmar and Mizoram.**
- Since the 1980s–90s, various Kuki-Zo insurgent groups have taken up arms, mostly demanding:
  - Greater autonomy/self-determination;
  - Protection of tribal rights and land;
  - In some cases, separate statehood.

TECHNOLOGY PERSPECTIVE AND CAPABILITY ROADMAP (TPCR-2025)

The Defence Ministry has released TPCR-2025, a 15-year roadmap aimed at enhancing India's nuclear deterrence and drone warfare capabilities.

Key Highlights of TPCR-2025

- **Nuclear Deterrence:** The plan focuses on building **credible and survivable nuclear systems** to ensure effective deterrence.
  - It includes investment in nuclear command-and-control infrastructure, radiation detection equipment, and mobile decontamination units.
  - In addition, the use of **unmanned ground vehicles** has been proposed for Chemical, Biological, Radiological, and Nuclear (CBRN) reconnaissance.
- **Drone Warfare:**
  - India aims to develop **stealth long-range drones** capable of flying up to 1,500 km and reaching altitudes of 60,000 feet.
  - These drones will be equipped with **electronic warfare payloads, CBRN detection tools, and artillery-guidance systems**.
  - The plan also highlights the deployment of **AI-enabled loitering munitions** with reusable warheads for precision strikes.
  - Furthermore, **integrated surveillance drones** will be introduced to support mechanised forces.
- **Defence Against Drone Swarms:** The plan proposes the creation of **adaptive jamming systems** and **electronic denial zones** with a coverage radius of up to 15 km to defend against drone swarms.
- **Strategic Importance:**
  - TPCR-2025 is designed to strengthen **integrated deterrence** by combining nuclear, electronic, and unmanned capabilities.
  - It also supports **self-reliance in defence manufacturing** under the Atmanirbhar Bharat initiative.
  - Most importantly, it prepares India to deal with **emerging threats** such as drone swarms and CBRN warfare.

BORDER WING HOME GUARDS ALONG CHINA BORDER

The Ministry of Home Affairs (MHA) is considering expanding BWHGs to the India–China border, similar to their deployment on the Pakistan border.

About:

- BWHGs are an **auxiliary force** recruited from civilian populations in border areas.
- They assist the **Army and border guarding forces** during emergencies.
- Members perform **duties similar to constables** for about 3–4 years.
- The **Centre bears 25%** of the cost of training and support.

Current Status

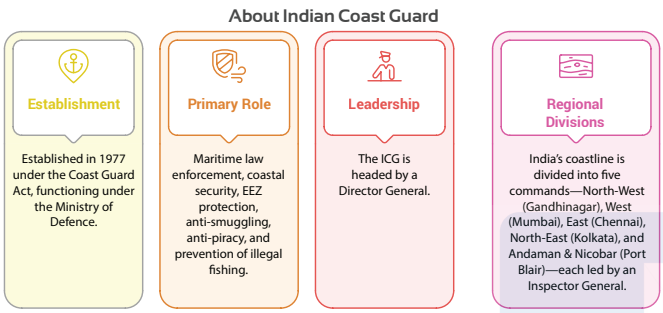
- **Seven states** are authorised to raise BWHGs: Meghalaya, Tripura, Assam, West Bengal, Punjab, Rajasthan, and Gujarat.
- Currently, they are **active only in Rajasthan**, with 2,279 personnel deployed.
- They contributed to **Operation Sindoor** by helping with local intelligence gathering.

Need for Expansion on the China Border

- After the **2020 Ladakh clashes**, more than 50,000 Army and ITBP personnel remain deployed along the LAC.
- Raising BWHGs here would **boost manpower in sensitive areas**, support **local intelligence collection**, and assist ITBP in **surveillance and community coordination**.

INDIAN COAST GUARD

The Indian Coast Guard (ICG) has reaffirmed India's commitment to global maritime governance at the 4th Coast Guard Global Summit, held in Rome.



INDIAN NAVY'S 'ANDROTH'

The Indian Navy has received 'Androth' an indigenously built anti-submarine warfare shallow water craft (ASW-SWC).

About

- Named after **Androth island** (the largest island of the Lakshadweep archipelago), the warship is the **second of eight ASW-SWCs** being built by **Garden Reach Shipbuilders and Engineers (GRSE).**
- Constructed in line with the **Indian Register of Shipping (IRS) classification rules**, the project—with over 80% indigenous content—embodies the vision of Aatmanirbhar Bharat.

SAMUDRA PRADAKSHINA

On September 11, 2025, Defence Minister Rajnath Singh virtually flagged off the expedition, named "Samudra Pradakshina", from the Gateway of India, Mumbai.

About the Expedition:

- The expedition is being undertaken by a **crew of 10 women officers** from the Army, Navy, and Air Force.
- They are sailing on the Indian Army Sailing Vessel (IASV) Triveni.

Route

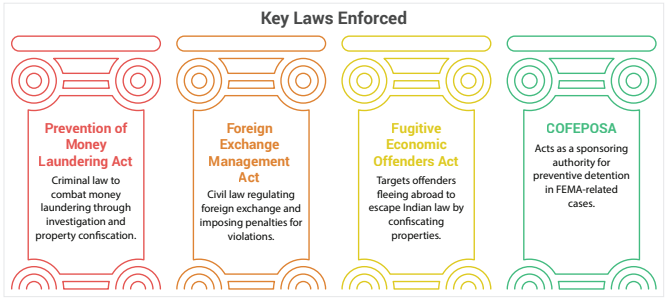
- The journey will involve **crossing the Equator twice** and sailing around three major Capes:
  - **Cape Horn** – Southern tip of Chile (Tierra del Fuego).
  - **Cape Leeuwin** – Southwest tip of Australia (Western Australia).
  - **Cape of Good Hope** – Southern tip of South Africa (near Cape Town).

94% CONVICTION RATE IN PMLA CASES: ED

The Enforcement Directorate (ED) has achieved a 94% conviction rate in PMLA cases.

About ED:

- **Type:** Law enforcement & economic intelligence agency.
- **Ministry:** Department of Revenue, Ministry of Finance.
- **Origin:** Started in 1956 as an **Enforcement Unit** (for FERA, 1947 violations); renamed **ED** in 1957.



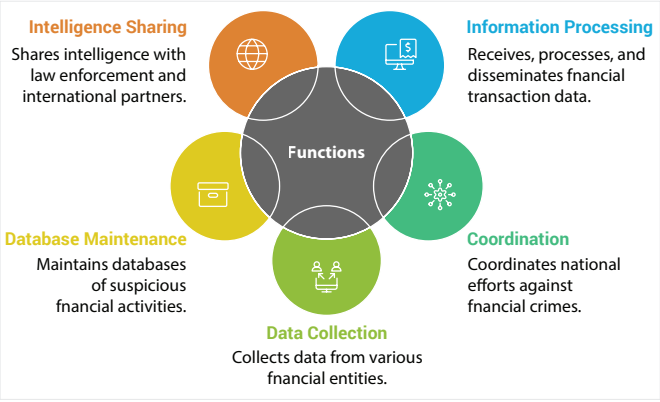
FINANCIAL INTELLIGENCE UNIT-INDIA

The Department of Telecommunications (DoT) and the Financial Intelligence Unit-India (FIU-IND) signed a comprehensive Memorandum of Understanding (MoU) to prevent financial crimes.

About

- **Established:** 2004, under the Ministry of Finance (Department of Revenue).
- **Nature:** The central national agency for financial intelligence in India.

- **International role:** Represents India in the Financial Action Task Force (FATF), Asia/Pacific Group on Money Laundering (APG), and Egmont Group of FIUs for global cooperation.
- **Legal framework:** Operates under the Prevention of Money Laundering Act, 2002 (PMLA).

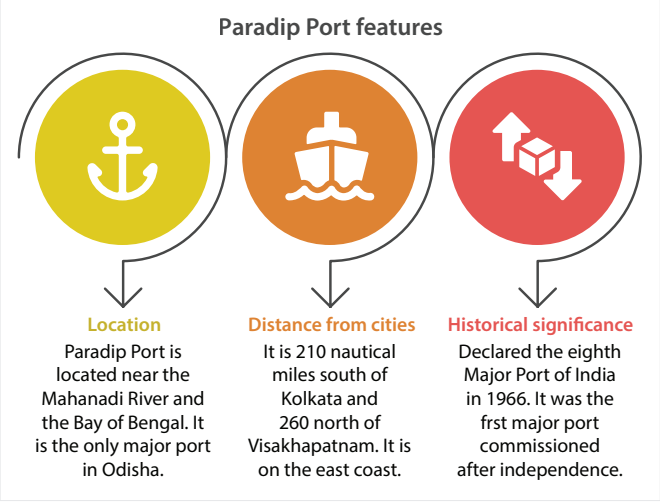


ICGS ADAMYA

Indian Coast Guard Ship (ICGS) Adamya, the first of eight Adamya-class Fast Patrol Vessels (FPVs), was commissioned at Paradip Port, Odisha.

About:

- **First of its class:** ICGS Adamya is the lead ship of the new Adamya-class Fast Patrol Vessels (FPVs).
- **Indigenously built:** Designed and constructed by Goa Shipyard Limited with over 60% indigenous content, supporting **Aatmanirbhar Bharat.**



AGNI-PRIME MISSILE

India successfully tested the Intermediate Range Agni-Prime Missile from a rail-based mobile launcher system.

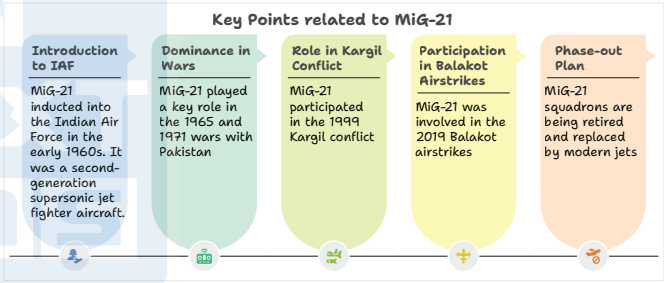
About

- **Developed by:** Defence Research and Development Organisation (DRDO).
- **Type:** Two-stage, solid-fuel propelled ballistic missile.
- **Range:** Up to 2000 km
- **Payload:** Can carry high explosive, thermobaric, or nuclear warheads.
- **Unique Feature:** First Indian missile tested from a **rail-based mobile launcher** – offers mobility, short reaction time, and reduced detectability.
- **Significance:** Only Russia, US, China, and possibly North Korea had such rail-based launch capability before; India has now joined this group.

MIG-21 FIGHTERJET

The Mikoyan-Gurevich (MiG-21) fighter jets were decommissioned by the Indian Airforce.

About

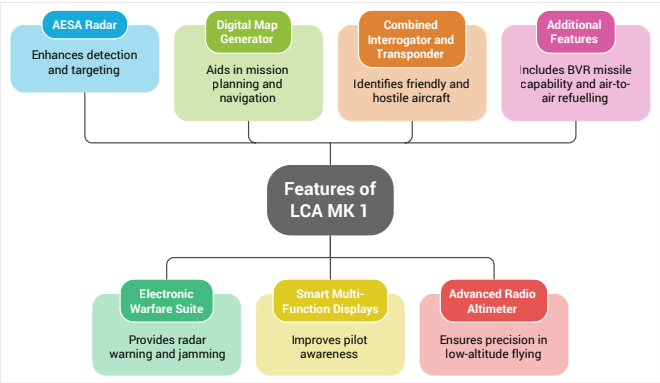


TEJAS MARK-1A AIRCRAFT

The Ministry of Defence has signed a contract to buy 97 light combat aircraft, of the Tejas Mark-1A variant, for the Indian Air Force from Hindustan Aeronautics Limited.

About

- **Overview:**
  - **LCA Tejas** is a 4.5 generation, all-weather, multi-role fighter aircraft, designed and developed in India by the Aeronautical Development Agency (ADA) and produced by Hindustan Aeronautics Limited (HAL).
  - **Mk1** refers to the **first operational version** of Tejas inducted into the Indian Air Force.
- **Role:** Built for versatility, it can undertake air-to-air combat, offensive air support, reconnaissance, interception, and ground attack roles.
- **Significance:** It marks India's progress towards self-reliance in defence (Aatmanirbhar Bharat) by reducing dependence on foreign fighter jets.



AFSPA

The Ministry of Home Affairs extended the Armed Forces (Special Powers) Act in parts of Manipur, Arunachal Pradesh, and Nagaland for another six months.

Background:

- Originates from the **Armed Forces Special Powers Ordinance, 1942,** used to suppress the Quit India Movement.
- Later applied in **Partition-era Assam (1947)** and expanded through the **Assam Disturbed Areas Act, 1955.**
- To tackle the Naga Hills uprising, the **AFSPA, 1958** was enacted.
- A separate AFSPA for **Jammu & Kashmir** was passed in 1990.

About the Act

- Passed by Parliament and signed by the President on **11th September 1958.**
- Gives armed forces and Central Armed Police Forces special powers in **"disturbed areas".**
- **Powers include:**
  - Use of force, including lethal force, against those breaking the law.
  - Arrest without warrant and search of premises.
  - Legal immunity to security personnel unless sanctioned by the Centre.
- Both the **Centre and State governments** can declare areas as "disturbed."

Disturbed Areas:

- Defined under **Section 3 of AFSPA** where armed forces' aid is considered necessary.
- Can be declared disturbed due to communal, regional, linguistic, or social conflicts.
- Notification valid for **3 months at a time** (as per Disturbed Areas Act, 1976).
- Currently, the **Union Home Ministry** extends AFSPA only in parts of **Nagaland and Arunachal Pradesh.**

Military Exercises

Exercise	Participants	Location	Focus / Key Features	Significance
Achook Prahar	Indian Army and Indo-Tibetan Border Police (ITBP)	Arunachal Pradesh (high-altitude)	Simulated combat, interoperability, and rapid response	Strengthens India's layered defence along the China border
Yudh Kaushal 3.0	Indian Army	Kameng, Arunachal Pradesh	Drone surveillance, precision strikes, air–littoral operations, debut of ASHNI platoons	Tests the integration of technology with combat in high-altitude terrain
MAITREE-XIV	India and Thailand	Meghalaya	Counter-terror drills in semi-urban terrain (UN Chapter VII), joint planning, and endurance training	Enhances India–Thailand defence ties since 2006
Yudh Abhyas 2025	India and the USA	Alaska, USA	Live-fire, high-altitude warfare, UN peacekeeping, multi-domain operations	Annual exercise since 2004, alternates between India and the USA
ZAPAD 2025	20+ countries, including China and Pakistan	Russia	Conventional and counter-terrorism operations, exchange of tactics	First joint drill of the Indian and Pakistani armies since Operation Sindoor
Bright Star 2025	Alexandria, Egypt.	India, the U.S., Egypt, Saudi Arabia, Qatar, Greece, Cyprus, Italy, and others.	Tri-service exercise; interoperability, regional security, hybrid threat response (air, land, maritime).	INS Trikand (Talwar-class stealth frigate, 2013, Russia-built) participated.
Siyom Prahar	Indian Army	Arunachal Pradesh	Drone intelligence with firepower fusion, joint targeting, and rapid decision-making	Validates new tactics for technology-driven battlefields

7 SCIENCE & TECHNOLOGY

CEREBO – BRAIN INJURY DIAGNOSTIC TOOL

The Indian Council of Medical Research (ICMR) and its partners have developed CEREBO, a portable device that helps detect Traumatic Brain Injuries (TBIs) quickly and at low cost.

Key Features of CEREBO:

- CEREBO is a non-invasive and portable hand-held device.
- It can detect bleeding and swelling inside the brain in less than one minute.
- The device is radiation-free, colour-coded, and affordable.
- It is safe for infants, pregnant women, and can be used even by untrained users.
- It can be deployed in ambulances, rural clinics, trauma centres, and disaster zones.
- The device works by combining near-infrared spectroscopy with machine learning.

VIKRAM 32-BIT PROCESSOR CHIP

At Semicon India 2025, Union Minister Ashwini Vaishnaw presented Prime Minister Narendra Modi with the 'Made in India' Vikram 32-bit processor chip, developed by ISRO and the Semiconductor Laboratory (SCL).

About the Processor

- A **processor (microprocessor)** is the "brain" of electronic devices, as it executes instructions and controls all operations.
- The **Vikram 32-bit chip** is used in the avionics of launch vehicles.
- It is an upgraded version of the **16-bit VIKRAM1601 chip**, which ISRO has been using since 2009.
  - A **16-bit processor** can process data in chunks of 16 bits at a time, suitable for simpler operations.
  - A **32-bit processor** can process data in 32-bit chunks, allowing faster speed, higher capacity, and better handling of complex tasks, improving reliability in critical missions.

Semicon India Mission:

- Launched in 2021, the mission seeks to make India a global hub for semiconductor design and manufacturing.
- Five Fabrication Units (Fabs) are under construction; one pilot line is complete and two more are set to begin production soon.
- The mission provides **incentives, R&D support, and collaboration opportunities** with academia and industry.

TWO-FACTOR AUTHENTICATION (2FA) AND TOTP

With the increase in cyberattacks and password theft, two-factor authentication apps such as Google Authenticator have become an essential tool for improving online security.

About

- Two-Factor Authentication (2FA) is a security process that adds a second step to the login procedure.
  - The **first factor** is something you know, such as a password.
  - The **second factor** is something you have, such as an authentication app on your phone.
- This means that even if someone manages to steal your password, they still cannot log in without the code generated on your phone.

OTPs and TOTPs:

- A **One-Time Password (OTP)** is a short code that is valid for only a single login attempt.
- A **Time-based One-Time Password (TOTP)** is a code that changes every 30 seconds, using time as an input.
- In the case of TOTP, both your authentication app and the online service (such as Gmail) use the same secret key combined with the current time to generate identical codes.

How TOTP Works?

- When you set up 2FA, the service shares a **secret key** with your authentication app, usually through a QR code.
- Time is divided into fixed intervals of **30 seconds**, known as time counters.
- Both the app and the server use the secret key and the time counter in a mathematical formula to generate a unique code.
- The output is typically a six-digit number that remains valid for only 30 seconds.

How Secure is TOTP?

- The secret key is stored securely on both your device and the service's server.
- Since the codes **expire every 30 seconds**, they are difficult to reuse.
- The vast number of possible combinations makes it nearly impossible to guess the correct code.
- TOTP therefore provides **much stronger protection than passwords alone**.

GAGANYAAN ANALOG EXPERIMENTS (GYANEX)

ISRO has been conducting Gyanex experiments marking a critical preparatory step for India's first human space mission, ensuring astronaut readiness and mission safety.

About:

- Gyanex is the name of ISRO's human spaceflight simulation experiments, designed as part of the Gaganyaan programme.
- These experiments place selected astronauts in confined, spacecraft-like conditions on Earth to simulate life in space.
- **Purpose:** To prepare astronauts for space missions by practicing routines, communication, scientific tasks, and resource management.
  - To study the impact of confinement on crew health and performance.
  - To develop mission protocols that will be used in the actual Gaganyaan human spaceflight mission.
  - The only aspect not recreated is microgravity, which cannot be simulated on Earth.

Gyanex-1:

- Conducted with Group Captain Angad Pratap and two other astronauts, who remained in confinement for 10 days.
- During this period, the crew performed 11 scientific experiments.
- Data collected on health, activity patterns, and psychological effects will inform the planning of future human space missions.

PRATUSH MISSION

India has developed a credit-card sized computer for space missions, designed to catch the extremely faint signals from the universe's earliest moments.

About:

- **Full form:** Precise Radio Astronomy for Transient Universe Studies from High-lunar orbit (reported in concept stage).
- It envisions placing a payload in lunar orbit around the far side of the Moon.
- The mission harnessed the radio-quiet environment on the far side to conduct low-frequency radio astronomy free from Earth's radio interference and ionospheric distortion.

Far Side of the Moon

- **Radio Quiet Zone:** The Moon shields its far side from Earth's radio frequency interference.
- **No Ionosphere Disturbance:** Earth's ionosphere blocks or distorts radio waves below ~30 MHz, limiting ground-based observations.
- **Unique Observational Advantage:** Allows study of cosmic dawn (formation of first stars and galaxies), interstellar plasma, and detection of ultra-low-frequency radio bursts.

PROTEIN LANGUAGE MODELS

The recent emergence of Large Language Models (LLMs) has revolutionised the research on proteins.

About:

- LLMs are advanced machine learning models trained on massive amounts of text data.
- They learn patterns, grammar, and meaning in human language to generate and understand text.
- Examples include GPT models, BERT, and LLaMA.

Natural Language Processing (NLP)

- NLP is the field of **artificial intelligence** that focuses on enabling computers to **understand, interpret, and generate human language**.
- Tasks in NLP include translation, summarization, sentiment analysis, and question answering.
- LLMs are a key innovation in NLP because they process words as **tokens** and sentences as **sequences of tokens**.

Protein Language Models (PLMs)

- PLMs are inspired by LLMs but are applied to **biology** instead of human language.
- In PLMs, each **amino acid** is treated as a **token (like a word)**, and an entire **protein sequence** is treated as a **sentence**.
- They are used to interpret and predict protein properties, such as **structure, function, and interactions**, much like LLMs interpret meaning in text.

APPLICATIONS

- **Drug Discovery** — Accelerates the search for new drug targets.
- **Vaccine Development** — Predicts and models critical viral protein structures.
- **Disease Research** — Understanding mutations and misfolding in proteins.
- **Synthetic Biology** — Enables design of novel proteins with desired functions.

ENTEROMIX - MRNA CANCER VACCINE

Russia has unveiled EnteroMix, a new vaccine reported to show 100% efficacy in early clinical trials for cancer treatment.

About:

- The **mRNA-based vaccine** had successfully passed preclinical trials, demonstrating both safety and high effectiveness.
  - It is to shrink aggressive tumours, slow their growth, and do so without the harsh side effects of chemotherapy or radiation.

- The vaccine will be tailored to each patient's RNA, making it a fully personalised therapy.
- **How this Vaccine Works:** EnteroMix uses a combination of four harmless viruses to target and destroy cancer cells while simultaneously activating the body's immune defences.

mRNA Vaccines and how they Work

- The idea of using **mRNA (messenger Ribonucleic Acid)** for vaccines has existed since the 1980s, but it became practical only recently.
- Unlike traditional vaccines, which use a weakened or inactive virus, **mRNA vaccines use genetic instructions** to tell the body how to fight the virus.
- The mRNA carries a code that instructs our cells to make a **specific protein from the virus**. The immune system then recognises this protein as foreign and builds defences against it.
- This technology proved highly effective during **Covid-19**, allowing scientists to quickly design vaccines that reduced severe illness and deaths.
- Importantly, **mRNA does not change human DNA**, because it never enters the cell's nucleus and is broken down naturally within a few days.
- With their success against Covid-19, scientists are now exploring **mRNA vaccines for other diseases** such as influenza and even **personalised cancer treatments**

COMPARISON

Aspect	mRNA Vaccines	DNA Vaccines
Genetic Material	Use messenger RNA (mRNA) as the genetic material.	Use DNA (deoxyribonucleic acid) as the genetic material.
Stability	mRNA is fragile and needs lipid protection for stability.	DNA is naturally more stable and does not need lipid protection.
Delivery	Deliver instructions directly to cells to make viral proteins.	Usually use a harmless viral vector to deliver DNA instructions to cells.
Storage	Require ultra-cold temperatures (around -90°C to -50°C) for storage and transport.	Can be stored at less extreme temperatures, making them suitable for tropical regions like India.
Flexibility	Can be adapted quickly for new diseases or variants by changing the code.	Also adaptable, but may need extra development steps for modifications.
Examples	Pfizer-BioNTech and Moderna COVID-19 vaccines.	ZyCoV-D (Zydus Cadila) and Covishield.

WORLD'S FIRST AI 'MINISTER' DIELLA

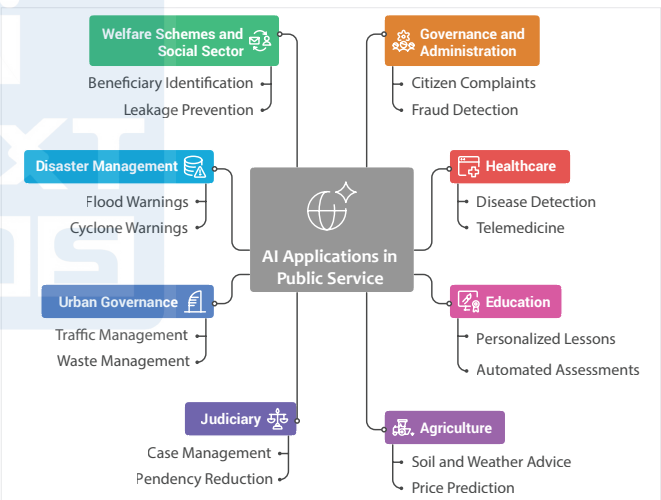
Albania has become the first nation to appoint an AI-generated "minister" tasked with tackling corruption.

About

- Albania's Prime Minister Edi Rama announced the digital minister to his cabinet.
- The digital assistant is named 'Diella' meaning 'Sun' and has been given responsibility of taking all decisions related to the public tenders, making them 100% corruption-free.
  - The AI minister will also have the right to assess tenders and hire talents from across the world.

About Artificial Intelligence (AI):

- It refers to the **hypothetical intelligence of a machine** that possesses the ability to understand or learn any intellectual task that a human being can. It is a type of AI that aims to mimic the cognitive abilities of the human brain.
- Artificial intelligence allows machines to model, or even improve upon, the **capabilities of the human mind.**



SOILIFICATION TECHNOLOGY

Researchers at the Central University of Rajasthan (CUoR) successfully grew wheat in the arid lands of western Rajasthan using this technology.

About Desert Soilification Technology

- A technique to convert desert sand into a soil-like structure by using special bioformulations/polymers.
- **The formulation: It cross-links sand particles**, giving stability and porosity like soil.
  - It enhances **water-retention capacity**, reducing irrigation needs.
  - It promotes **beneficial microbial activity**, improving fertility and crop stress resistance.
- **Origin:** Similar methods have been piloted in China and are now adapted with **indigenous innovation in India.**

POLYPROPYLENE

The Prime Minister laid the foundation stone of a polypropylene plant at Numaligarh Refinery Limited (NRL) in Golaghat, Assam.

About

- Polypropylene (PP) is a thermoplastic polymer that belongs to the polyolefin family.
- It is one of the **most widely used plastics** in the world because it is lightweight, durable, and versatile.
- **Applications:** Polypropylene is used to manufacture carpets, ropes, bags, fibers, masks, medical kits, and textiles, and also plays a vital role in the automotive sector as well as in producing medical and agricultural equipment.
- Assam is known for its **traditional Gamosa and its renowned Eri and Muga silk,** the state's identity will now also include **textiles made from polypropylene.**

FENTANYL MEDICINE

The U.S. Embassy in New Delhi said it has cancelled visas of some Indian businessmen and their families for sending fentanyl-making chemicals to the United States.

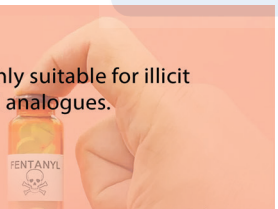
About:

- Fentanyl is a **man-made painkiller** medicine.
- It is **50 to 100 times stronger than morphine.**
- Doctors use it for **serious pain**, like in cancer treatment.
- But when used illegally, it is very dangerous and causes **many overdose deaths** in the U.S. every year.

Drug Precursors

The following are two precursors highly suitable for illicit manufacture of fentanyl and fentanyl analogues.

- 4-piperidone
- 1-boc-4-piperidone



Fentanyl and fentanyl analogues are very potent narcotic drugs that continue to result in overdose deaths, according to the International Narcotics Control Board

ASTROSAT OBSERVATORY

AstroSat has completed 10 years of continuous and successful operation since its launch in 2015.

About

- Launched on Sept. 28, 2015, by PSLV-C30 from Sriharikota.
- Designed life of 5 years, but continues to function successfully even after 10 years.
- **Objective:** To observe the universe across multiple wavelengths — visible, ultraviolet, and low & high energy X-rays — at the same time.

Key Discoveries:

- Provided insights into black holes, neutron stars, Proxima Centauri, and detected far-ultraviolet (FUV) photons from galaxies 9.3 billion light-years away.

Collaboration:

- Developed by ISRO in partnership with IUCAA, TIFR, IIA, RRI, several Indian universities, and international collaborators from Canada and the UK.

Significance:

- Marked a major step for India in space-based astronomy, working alongside global observatories such as NASA's Chandra and Hubble.

GAMMA-RAY BURSTS (GRBS) AND EXTREME NUCLEAR TRANSIENTS (ENTS)

Astronomers have recently discovered Extreme Nuclear Transients (ENTs), surpassing GRBs as the most powerful explosions known in the universe.

About Gamma-Ray Bursts (GRBs)

- GRBs are **extremely bright flashes of gamma rays**, the highest-energy form of light in the electromagnetic spectrum.
- Gamma rays have very short wavelengths (< 10 picometers or 1×10^{-11} m) and very high frequencies (> 30 exahertz or 3×10^{19} Hz).
- They occur when massive stars collapse or when neutron stars/black holes collide.
- GRBs last only a few seconds to minutes, releasing enormous energy, and were once considered the strongest explosions in the universe.

About Extreme Nuclear Transients (ENTs)

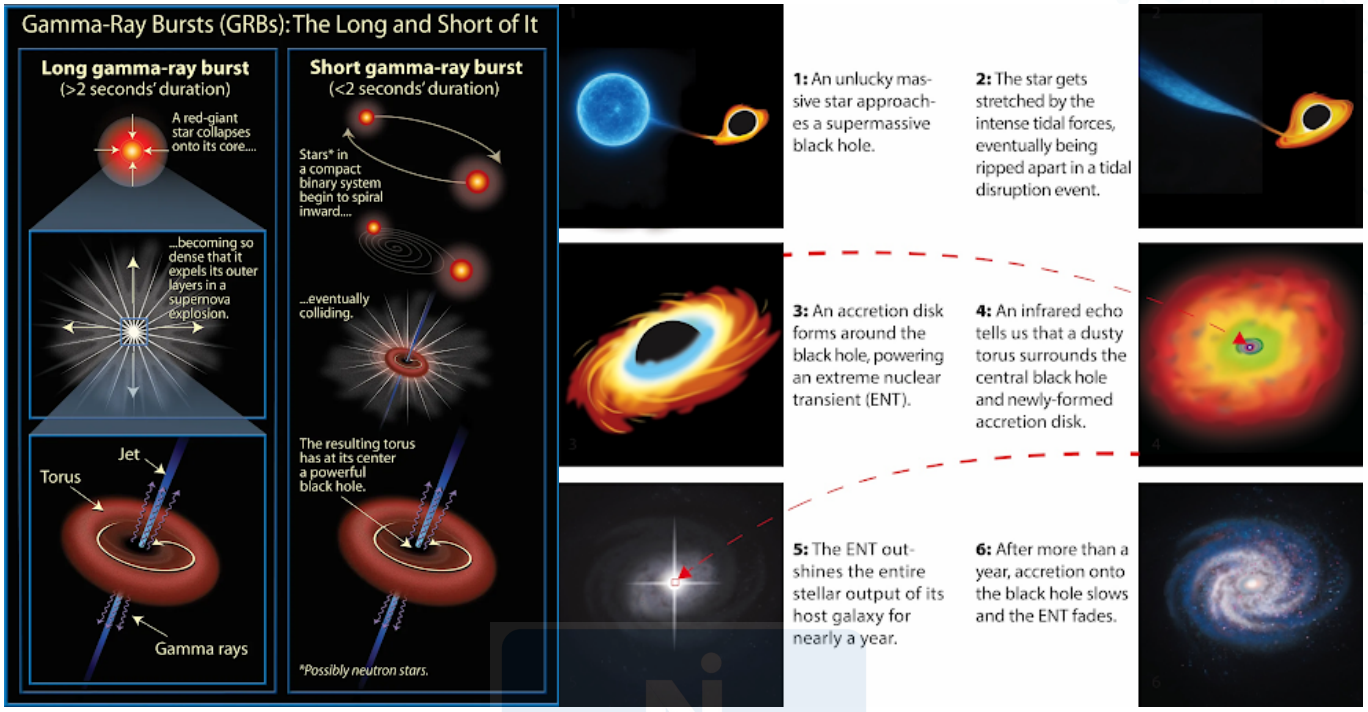
- ENTs are a type of **celestial transient**, meaning events where brightness changes rapidly.
- They happen when a supermassive black hole tears apart a star at least three times the Sun's mass.
- The star's debris falls into the black hole (**accretion process**), creating a **huge explosion.**
- Unlike GRBs, ENTs shine so powerfully that they remain **visible in radio wavelengths for years.**

Power Comparison:

- ENTs are **up to 10 times more powerful than GRBs**, now regarded as the **most energetic explosions since the Big Bang.**

Discovery:

- First identified in data from the **Gaia spacecraft (ESA).**
- Later confirmed using ground-based telescopes and surveys like the **Zwicky Transient Facility (California, USA).**



GLOBAL INNOVATION INDEX (GII) 2025

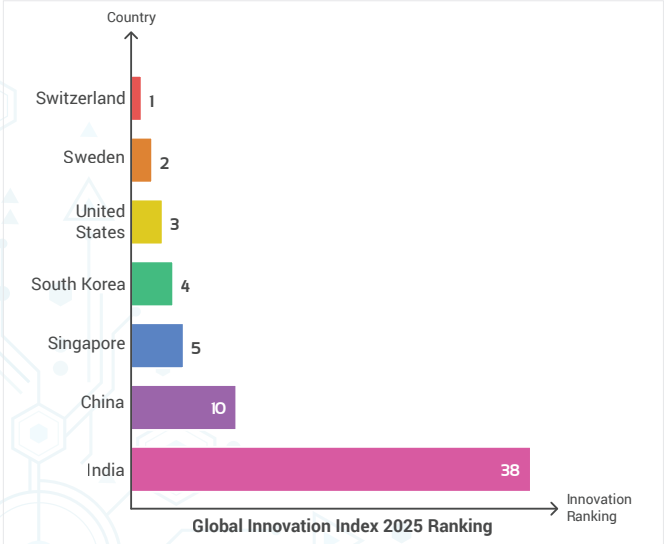
The 18th edition of the Global Innovation Index (GII) 2025, was released by the World Intellectual Property Organisation's (WIPO).

About:

- GII established in 2007, it is published annually and provides performance metrics and ranks around 140 economies on their innovation ecosystems.

Major Finding

- **Global R&D Growth:** Fell to 2.9% in 2024, lowest since 2010 crisis (down from 4.4% in 2023). Projected 2.3% in 2025 (WIPO).



World Intellectual Property Organization (WIPO)

- It is a **self-funding agency of the United Nations,** that serves the world's innovators and creators, ensuring that their ideas travel safely to the market and improve lives everywhere.
- **Members:** The organization has **194** member states including both developing and developed nations like India, Italy, Israel, Austria, Bhutan, Brazil, China, Cuba, Egypt, Pakistan, the U.S. and the U.K.
- **Headquarters:** Geneva, Switzerland.

WORLD'S 1st FUNCTIONING AI-DESIGNED VIRAL GENOME

Recently, researchers at Stanford and the Arc Institute created the world's first entirely AI-generated viral genome.

About

- The **new virus** created by AI **can infect and kill bacteria.**
- Scientists have already used **AI to design individual proteins and even small multi-gene systems.** However, creating an **entire genome is way more complex.**
- In simpler words the **AI model learned the "language rules" of phage DNA** and then generated **a new, never-before-seen genome that still worked in real life.**

How was it done?

- Scientists used **Artificial Intelligence (AI) called Evo,** specifically genome **"language models,"** to design entirely **new bacteriophage** (virus that infects bacteria) genomes.

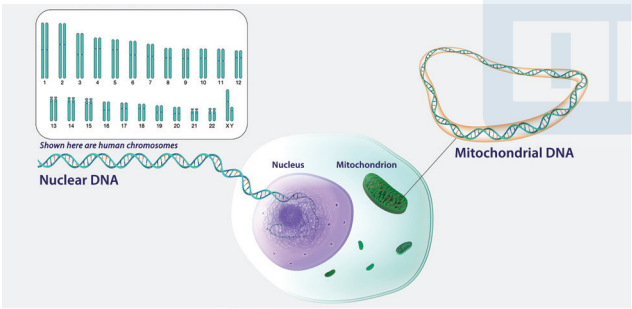
- **Evo was trained on about two million viral genomes** so it could learn the DNA, the patterns of gene order and composition.
  - The researchers guided the model to mimic phiX174, a small bacteriophage with just 11 genes and around 5,000 DNA letters that has long been a staple of molecular biology.

About Virus

- A virus is an infectious microbe consisting of a segment of nucleic acid (either DNA or RNA) surrounded by a **protein coat called capsid.**
- Viruses are **not considered living organisms** because they cannot carry out metabolic processes on their own.
- A virus cannot replicate alone; instead, it must infect cells and use components of the host cell to make copies of itself.
- Often, a **virus ends up killing the host cell** in the process, causing damage to the host organism.
- Well-known examples of viruses causing human disease include AIDS, COVID-19, measles and smallpox.

Genome:

- The genome is the **entire set of DNA instructions found in a cell.**
- In humans, the genome consists of **23 pairs of chromosomes** located in the cell's nucleus, as well as a small chromosome in the cell's mitochondria.
- A genome contains **all the information needed for an individual to develop and function.**



ASTRONOMERS DETECT QUASI-MOON NEAR EARTH

Astronomers have recently identified 2025 PN7, a tiny asteroid that is a "quasi-moon" of Earth and has been following our planet for about 60 years.

About 2025 PN7

- The asteroid is approximately **62 feet** in diameter and was observed by the **Pan-STARRS observatory in Hawaii.**
- The object follows a near-Earth orbital path around the Sun, maintaining a distance that ranges from 2.8 million miles to 37 million miles from Earth.

About Quasi-Moons

- A quasi-moon differs fundamentally from a natural satellite such as Earth's Moon.
- While **Earth's Moon is gravitationally bound to the planet** and revolves directly around it, a **quasi-moon is gravitationally bound to the Sun.**
- The orbit of a quasi-moon is synchronized with Earth's orbital trajectory, creating the observational impression that it is a companion of the planet.

H3N2 FLU

The H3N2 flu virus has triggered a major epidemic throughout the entire Delhi-NCR region.

About

Key Details of H3N2 Influenza

1	**About** It is a subtype of the Influenza A virus, affecting mainly those over 50 and under 15.
2	**Transmission** It spreads through respiratory droplets and contaminated surfaces, with higher risk in crowded spaces like schools and nursing homes.
3	**Symptoms** Sudden high fever, chills, sore throat, headaches, muscle, body aches.
4	**Home Treatment** Managing symptoms with rest and hydration
5	**Antiviral Prescription** Administering oseltamivir for high-risk individuals

AUTISM MYTHS AROUND TYLENOL

US President Donald Trump recently claimed that Tylenol (paracetamol/ acetaminophen) use during pregnancy may cause autism and suggested limiting its use.

About Tylenol

- It is a brand name for **acetaminophen, or paracetamol,** which is used as a pain reliever and a fever reducer.
- An over-the-counter medication, it is used to **alleviate headaches, muscle aches, arthritis** and used to manage symptoms of colds and flu.
  - Over-the-counter medicines refers to medicines that can be bought directly from a pharmacy **without a doctor's prescription.**

8 SOCIETY

BOARD FOR DENOTIFIED, NOMADIC AND SEMI-NOMADIC COMMUNITIES (DWBDNC)

The underscores persistent delays and administrative hurdles in addressing the needs of Denotified, Nomadic, and Semi-Nomadic (DNT/NT/SNT) communities.

About the Board:

- It was set up in 2019 under the Ministry of Social Justice.
- It aims to look after the development and welfare of Denotified Tribes, Nomadic Tribes and Semi-Nomadic Tribes.
- Nomadic and semi nomadic tribes: These groups were earlier branded as "criminal tribes" under British rule and remain socially and economically marginalised.
- The Board was meant to coordinate welfare schemes, suggest policy changes, and ensure better inclusion of these groups.
- It was also supposed to work on data collection, issuing community certificates, and linking benefits with SC/ST/OBC categories.

Issues Faced by the Board:

- The Board has only two members, while many key posts remain vacant.
- It has very limited financial powers and authority.
- There is no permanent staff, and even the office space is inadequate.
- Reliable region-wise data is missing, which makes policy planning very difficult.
- **Recommendations:**
  - Permanent commission status for the Board.
  - Standardised community certificates across all States.
  - Strengthening **SEED scheme** for economic empowerment, including land, housing, and educational benefits.

UNPAID CARE WORK AND WOMEN'S TIME POVERTY: CHOICE OR DUTY

Ministry of Statistics and Programme Implementation's (MoSPI) Time Use Survey (TUS) conference in Thiruvananthapuram, Kerala, experts urged the government to examine whether women's unpaid caregiving stems from choice or social obligation.

Time Use Survey (TUS):

- **Conducted by:** The Ministry of Statistics and Programme Implementation (MoSPI)
- **Aim:** To measure how much time people spend on different activities like paid work, learning, domestic work, and unpaid caregiving.
- Latest results (2024) show significant gender disparity in unpaid care work.

Unpaid Care Work & Its Implications:

- **Time Poverty:** Disproportionate unpaid care burden reduces women's ability to engage in paid work or skill-building.
- A 2014 study found that every two-hour rise in unpaid work leads to a 10% drop in the Female Labour Force Participation Rate (FLFPR).
- **India's FLFPR (2024):**
  - **Overall:** 33.7% (vs 77% for men).
  - **Youth (15–29 years):** 21.4% (vs 60.7% for men).

Trends in Unpaid Care Work:

- The 2024 Time Use Survey found that Indians spend an average of 116 minutes a day on unpaid caregiving, with women devoting 137 minutes;
  - Nearly twice as much as men at 75 minutes.
- Young women (15–29 years) now spend 164 minutes daily on caregiving;
  - up from 154 in 2019—while men's time rose by only two minutes.

OUT-OF-POCKET EXPENDITURE (OOPE)

India's out-of-pocket expenditure accounts for 39.4% of total health spending, driving medical impoverishment and posing a major obstacle to achieving Universal Health Coverage.

About OOPE:

- Out-of-Pocket Expenditure means the money that people pay directly from their own pockets for health care.
- It includes payments for doctor fees, medicines, hospital charges, tests, and transport.
- It does not include costs paid by the government or insurance.

NHA Estimates:

- The National Health Accounts (NHA) track health spending by households, government, and others.
- NHA 2017-18 reported OOPE fell from 64% in 2013-14 to 49% in 2017-18.
- NHA 2021-22 shows OOPE further down to 39% of total health spending.

Government Initiatives to Reduce OOPE

Initiative	Ayushman Bharat (PM-JAY)	Free Medicines & Diagnostics	National Health Mission (NHM)	Digital Health Initiatives	Jan Aushadhi Scheme
Description	Covers 10+ crore families, ₹5 lakh coverage	Free drugs & tests at PHCs	Strengthens rural health infrastructure	Teleconsultations via eSanjeevani	Affordable generic medicines via Kendras

Concerns Raised:

- **Medical Impoverishment:** High OOPE pushes 55 million Indians into poverty each year (WHO).
- **Care Denial:** Fear of costs leads to delayed or skipped treatment, raising morbidity and preventable deaths.
- **Catastrophic Spending:** ~17% of households spend over 10% of income on health, straining finances.
- **Inequitable Access:** Rural, poor, and marginalized groups face higher OOPE, limiting essential care.

RISE CRIMES AGAINST VULNERABLE SECTIONS

The National Crime Records Bureau released The crime in India 2023.

Key Finding Reports:

- The National Crime Records Bureau (NCRB) reported in *Crime in India 2023* a **7.2% increase** in total crimes from 2022, totaling over **6.24 million cases.** In 2023, India recorded a crime every five seconds.

- **Changing Crime Patterns;**
  - **Traditional Crimes:** Decline in violent crimes like rape and dowry deaths; rise in cyber and urban crimes.
  - **Cybercrimes:** Up 31.2% in 2023, mainly fraud, showing risks from rapid digitalization.
  - **Metro Cities:** Urban crimes rose 10.6%, with Delhi having the highest cases.

Crimes Against Vulnerable Section

Category	Total Cases (2023)	Total Cases (2022)	% Change	Key Highlights
Crimes against STs	12,960	10,064	+28.8%	Highest in Manipur (3,399); **Major crimes:** Simple hurt (2,757), riots (1,707), rape (1,189)
Crimes against SCs	57,789	57,582	+0.4%	Slight increase; relatively stable
Crimes against Women	4,48,211	4,45,256	+0.7%	**Major heads:** Cruelty by husband/relatives (1,33,676), Kidnapping/abduction (88,605), Assault to outrage modesty (83,891), POCSO (66,232)
Crimes against Children	1,77,335	1,62,449	+9.2%	Kidnapping/abduction (79,884), POCSO (67,694)
Juvenile Crimes	31,365	30,555	+2.7%	**Juveniles apprehended:** 40,036; majority (79%) aged 16–18 years

National Crime Records Bureau (NCRB)

- **Establishment & Role:** Set up in 1986 under MHA to collect, compile, and analyze crime data across India.
- **Key Functions:** Maintains crime records, publishes annual reports, and supports police modernization.
- **Publishes:** national crime statistics.Crime in India, Accidental Deaths & Suicides and Prison Statistics.

9 CULTURE & HISTORY

CHHATH MAHAPARVA

India is exploring a multinational nomination of 'Chhath' for inscription in UNESCO's Representative List of Intangible Cultural Heritage of Humanity.

About:

- Chhath Mahaparva, dedicated to the **Sun God** and **Goddess Chhathi Maiya,** is among India's oldest festivals.
- It is celebrated extensively in **Bihar, Jharkhand, Uttar Pradesh, West Bengal**.
  - It is celebrated by Indian diaspora communities in **Mauritius, Fiji, Suriname, UAE, and the Netherlands.**
- The **four-day festival**, known for its ecological and egalitarian ethos, fosters reverence for nature, sustainability, inclusivity, and community spirit.

India's Position in UNESCO Intangible Heritage:

- India already has **15 elements** inscribed (e.g., Yoga, Kumbh Mela, Durga Puja).
- **Nodal Agency:** Sangeet Natak Akademi coordinates India's nominations.
- For inclusion, **state parties** must submit a **nomination dossier** under the 2003 UNESCO Convention.

Intangible Cultural Heritage (ICH)

Cultural heritage includes monuments, traditions, rituals, and knowledge, with intangible heritage preserving diversity, fostering dialogue, and transmitting vital skills across generations.

- **Traditional & Living:** Intangible cultural heritage includes both inherited traditions and contemporary practices across diverse communities.
- **Inclusive:** Intangible cultural heritage transcends regions and cultures, evolving over generations to foster identity, continuity, and social cohesion.
- **Representative:** Intangible cultural heritage is valued for its role in communities, passed down through generations, rather than for exclusivity or rarity.
- **Community-based:** Intangible cultural heritage exists only when recognized and maintained by the communities that create and transmit it.

SARNATH

India nominated Sarnath for the UNESCO World Heritage List (2025–26) cycle, and ahead of the visit. Also ASI will revise the plaque to credit a local ruler's family over the British.

About:

- **Location:** It is situated near Varanasi, Uttar Pradesh.
  - One of the four major Buddhist pilgrimage sites (others: Lumbini, Bodh Gaya, Kushinagar).
- **Historical Importance:** After attaining enlightenment at Bodh Gaya, Gautama Buddha **delivered his first sermon** at Sarnath (around 528 BCE).
  - This event is called **"Dhammachakrapravartana"** or "Turning of the Wheel of Dharma".
  - It marked the **beginning of the Buddhist Sangha** (community of monks).
- **Monuments & Structures:**
  - **Dhamek Stupa** – built by Ashoka, commemorates the Buddha's first sermon.
  - **Chaukhandi Stupa** – marks the spot where Buddha met his first disciples.
  - **Ashokan Pillar** – erected by Emperor Ashoka; its lion capital is now the National Emblem of India.
  - **Monasteries & remains** – ruins of ancient viharas, temples, and sculptures.
- **Ashoka's Contribution:** Emperor Ashoka visited Sarnath in **3rd century BCE.**
  - Built stupas, monasteries, and inscribed edicts promoting Dharma.
  - The Lion Capital of Ashoka from Sarnath was adopted as India's national emblem in 1950.

About Stupa's

A Stupa is a dome-shaped Buddhist monument housing relics or sacred objects, symbolizing religious and spiritual significance.

- **Medhi:** Square base platform, often with a **vedika** (boundary wall).
- **Anda:** Hemispherical dome housing relics or symbols.
- **Harmika:** Square railing atop the dome, marking a sacred enclosure.
- **Yasti:** Central spire representing the **axis mundi** (cosmic axis).
- **Chhatras:** Parasol series above the yasti, symbolizing protection and Buddha's teachings.
- **Toranas:** Ornate gateways on cardinal directions, depicting key events:
  - **East:** Birth
  - **South:** Enlightenment
  - **West:** First sermon
  - **North:** Nirvana

GUSSADI DANCE

Members of the Raj Gond Tribe from Adilabad district of Telangana are going to perform Gussadi dance for the 78th Hyderabad Liberation Day.

About:

- Gussadi is a traditional dance of the Raj Gond tribe, especially from Adilabad (Telangana), as well as parts of **Maharashtra.**
- The dance is performed **by men**, organized into groups called **Dandari**, and smaller groups within them called **Gussadi.**
- They dress in **saffron and turmeric-colored clothes** and wear bandages around their legs and waist.
  - During the Dance, the **performers wear vibrant attire**, including **turbans studded with peacock feathers**, deer horns, and goat skins.
- They use **instruments like** Dappu, Tudumu, Pipri, and Kolikammu.
- The famous exponent **Kanaka Raju**, from the Raj Gond community, was awarded the **Padma Shri in 2021** for his role in preserving/teaching the Gussadi dance.

INDIA'S UNESCO TENTATIVE LIST GROWING

Seven natural heritage sites from across India have been included in UNESCO's Tentative List of World Heritage Sites, increasing India's count on the Tentative List from 62 to 69 properties.

About Newly Added Sites

- **Deccan Traps at Panchgani and Mahabaleshwar, Maharashtra:** The sites form part of the massive Deccan Traps and are located within the **Koyna Wildlife Sanctuary**.
  - It is already a UNESCO World Heritage Site.
- **Geological Heritage of St. Mary's Island Cluster, Karnataka:** Known for its rare columnar basaltic rock formations, this island cluster dates back to the Late **Cretaceous period** (85 million years ago).
- **Meghalayan Age Caves, Meghalaya:** The stunning cave systems of Meghalaya, particularly the Mawmluh Cave, serve as the global reference point for the Meghalayan Age in the Holocene Epoch.
- **Naga Hill Ophiolite, Nagaland:** Exposed oceanic crust revealing tectonic and mid-ocean ridge processes.
- **Erra Matti Dibbalu (Red Sand Hills), Andhra Pradesh:** Red sand hills showing paleo-climatic and coastal geomorphology.
- **Natural Heritage of Tirumala Hills, Andhra Pradesh:** Featuring the Eparchaean Unconformity and the **Silathoranam (Natural Arch),** this site represents over 1.5 billion years of Earth's history.
- **Varkala Cliffs, Kerala:** The scenic cliffs along Kerala's coastline expose the Warkalli Formation of the Mio-Pliocene age, along with natural springs and striking erosional landforms.

NATIONAL ARCHIVES OF INDIA (NAI)

50th Golden Jubilee Meeting of the National Committee of Archivists (NCA) organized by the National Archives of India (NAI).

About:

- It is the **premier repository** of the Government of India for preserving and maintaining the **nation's documentary heritage.**
- It was **originally established in 1891** in Calcutta (Kolkata) as the Imperial Record Department, and later shifted to **New Delhi in 1911**, where it is housed in a building **designed by Sir Edwin Lutyens**.
- The NAI functions as an **attached office of the Ministry of Culture** and is the custodian of non-current records of the Government of India.
- It is **headed by the Director General of Archives**, who is responsible for implementation of the Public Records Act, 1993 and Rules, 1997.

ROSH HASHANAH

The Prime Minister, Narendra Modi has greeted the warmest Rosh Hashanah to the Prime Minister of Israel Benjamin Netanyahu.

About:

- Rosh Hashanah is a Jewish holiday celebrating the creation of the world and the start of a new year.
- It is a holy which focuses on reflection, forgiveness, and setting priorities for the year ahead.
- Jewish people believe that during this time, God judges their actions from the past year to determine their fate for the next.

MOHENJODARO DANCING GIRL

A professor from Haryana, was booked for allegedly stealing a replica of the Mohenjodaro 'Dancing Girl' bronze figurine from the National Museum in Delhi.

About:

- The "Dancing Girl" is a 4,500-year-old bronze statuette from the Indus Valley Civilization.
- **Discovery:** Unearthed in 1926 at Mohenjo-daro (Pakistan) by archaeologist Ernest Mackay.
- **Material and Technique:** Made of bronze using the lost-wax casting technique.

Artistic Significance:

- **Depiction:** Shows a confident young girl with a tilted head and long arms.
- **Style:** Blends realism with stylized exaggeration.
- **Expression:** Posture and ornaments convey grace and rhythm.

10 MISCELLANEOUS

SCOPE EMINENCE AWARDS

President Droupadi Murmu presented the SCOPE Eminence Awards 2022–23 in New Delhi.

About

- It is an endeavour to commemorate the remarkable achievements and contributions of Public Sector Enterprises (PSEs) across multiple domains and represents one of the highest honours for the Public Sector.
- It is part of SCOPE's continued efforts towards recognizing the **Public Sector's role as nation builders.**

Standing Conference of Public Enterprises (SCOPE)

- It was established in 1973.
- It promotes competitiveness and excellence among Public Sector Enterprises (PSEs) and was formally given recognition as an apex body of Central Public Sector Enterprises in November 1976.
- **It focuses on four key pillars:** Policy Advocacy, Programs & Workshops, Capacity Building, and Skill Development & Brand Building.

RAMON MAGSAYSAY AWARD, 2025

An Indian non-profit organisation, 'Foundation to Educate Girls Globally', dedicated to girls' education, has been named a 2025 Ramon Magsaysay Awardee.

About:

- **Established:** 1958, in memory of Ramon Magsaysay, the 7th President of the Philippines, known for his integrity, courage, and democratic leadership.
- **Instituted by:** The Rockefeller Brothers Fund (RBF), in partnership with the Philippine government.
- **Administered by:** The Ramon Magsaysay Award Foundation (RMAF), Manila.
- **Nature:** Recognizes individuals or organizations in Asia who show selfless service and transformative leadership.
- **Prestige:** Considered Asia's highest honour, equivalent in stature to the Nobel Prize in Asia.
- From **1958 to 2008,** the Award was given in **six categories annually, these are:**
  - Government Service, Public Service, Community Leadership, Journalism, Literature, Creative Communication Arts, Peace and International Understanding, and Emergent Leadership.
  - Starting in **2009,** the Ramon Magsaysay Award is no longer being given in fixed Award categories, except for **Emergent Leadership.**

99th BIRTH ANNIVERSARY OF BHUPEN HAZARIKA

The Prime Minister recently paid tribute to Dr. Bhupen Hazarika on his 99th birth anniversary.

About Dr. Bhupen Hazarika

- Born on September 8, 1926, in Sadiya, Assam, he was known as the "Bard of Brahmaputra" and "Sudhakantha" (The Nightingale).
- His music reflected nature, love, fraternity, and social struggles, composed in Assamese, Hindi, Bengali, and other languages.
- Famous works include Bistirno Parare, university anthem Jilikaba Luitare Paar, and film compositions like Rudaali (1994).
- He contributed to Assamese cinema through films like Era Bator Sur (1956) and Shakuntala (1960), and made documentaries highlighting Northeast folk culture.

Awards and Recognition

- Dadasaheb Phalke Award (1992), Padma Shri (1977), Padma Bhushan (2001), Padma Vibhushan (2012, posthumous), and Bharat Ratna (2019, posthumous).
- Honoured with Muktijoddha Padak (2011, Bangladesh) and commemorated by Bhupen Hazarika Setu.

INTERNATIONAL EARTH SCIENCES OLYMPIAD (IESO-2025)

The Minister for Earth Sciences felicitated student winners comprising the Indian team at "International Earth Sciences Olympiad" (IESO-2025) held in China.

About

- **Team India secured a total of seven medals** – 1 Gold, 4 Silver and 2 Bronze – along with a **3rd Prize** in the International Geoscience Youth Movement (I-GYM) Reporter category.
- The Ministry supports **students for IESO every year** by conducting the **Indian National Earth Science Olympiad (INESO) across 300 centres in India.**

International Earth Sciences Olympiad

- It was established in 2003 by the International Geoscience Education Organization (IGEO).
  - It is one of the twelve International Science Olympiads.
- It is an annual competition for secondary school students (Class IX–XII) worldwide.
- India has been participating since 2007 and hosted the 10th edition at Mysore in 2013.
- **Aim:** To enhance the level of geoscience education worldwide and increase public awareness of Earth Sciences.

International Geoscience Education Organization:

- **Nature:** A non-governmental, non-profit international organization established in **2000**.
- **Purpose:** Promotes geoscience education at all levels (schools, universities, and public education).
- **Membership:** Open to individual geoscience educators, institutions, and organizations worldwide.

2025 WORLD BOXING CHAMPIONSHIPS

Jasmine Lamboria and Minakshi Hooda have won gold at the World Boxing Championships 2025 held in Liverpool, UK.

About

- The event was hosted at M&S Bank Arena, Liverpool, UK, and brought over 550 boxers from more than 65 countries across all continents.
- The 2025 edition was historic, as it combined both men's and women's events under World Boxing, the new global boxing federation, for the first time at the elite level.
- Kazakhstan topped the medal table with 7 gold, ahead of Uzbekistan and India.

PUBLIC FINANCIAL ASSET MANAGEMENT (PFAM) PROGRAM

Vivekanand Gupta, the Regional Provident Fund Commissioner of EPFO has been selected in the Public Financial Asset Management (PFAM) Program 2025–26.

About the PFAM Program

- PFAM is a prestigious initiative jointly organised by the World Bank and the Milken Institute.
- It is a globally recognised **leadership initiative** aimed at **equipping senior professionals** with cutting-edge expertise in capital markets, governance frameworks, and strategic asset management.
- **The 2025–26 cohort** consists of **16 participants from 13 countries, including 11** from Central Banks, three from Sovereign Wealth Funds, and two from Pension Funds.
- Selection brings India into this elite circle of **global financial professionals for the first time under this initiative.**

Employees' Provident Fund Organisation (EPFO)

- EPFO is a statutory body under the Ministry of Labour and Employment.
- It administers the Employees' Provident Fund and Miscellaneous Provisions Act, 1952.
- **Objectives:** To ensure financial security and social welfare of employees post-retirement.
  - To promote voluntary savings among employees.
  - To regulate and supervise provident fund, pension, and insurance schemes.

GUJARAT'S DHORDO SOLAR VILLAGE

Prime Minister Modi dedicated Dhordo as a "Solar Village" to the nation during the 'Samudra Se Samriddhi' programme in Bhavnagar, Gujarat.

About

- **Dhordo** will become the **fourth solar-powered village in the State,** after Modhera in Mehsana, Sukhi in Kheda, and Masali in Banaskantha.
  - It is a remote village in Gujarat's Kutch internationally acclaimed as the **'Best Tourism Village'** by the United Nations World Tourism Organisation (UNWTO).
- **As part of the PM Surya Ghar:**
  - **Muft Bijli Yojana,** every residential electricity connection in Dhordo has been solarised, ensuring that homes generate their own clean energy.
  - The system is projected to generate **2.95 lakh units of electricity annually,** directly translating into significant economic relief for residents.

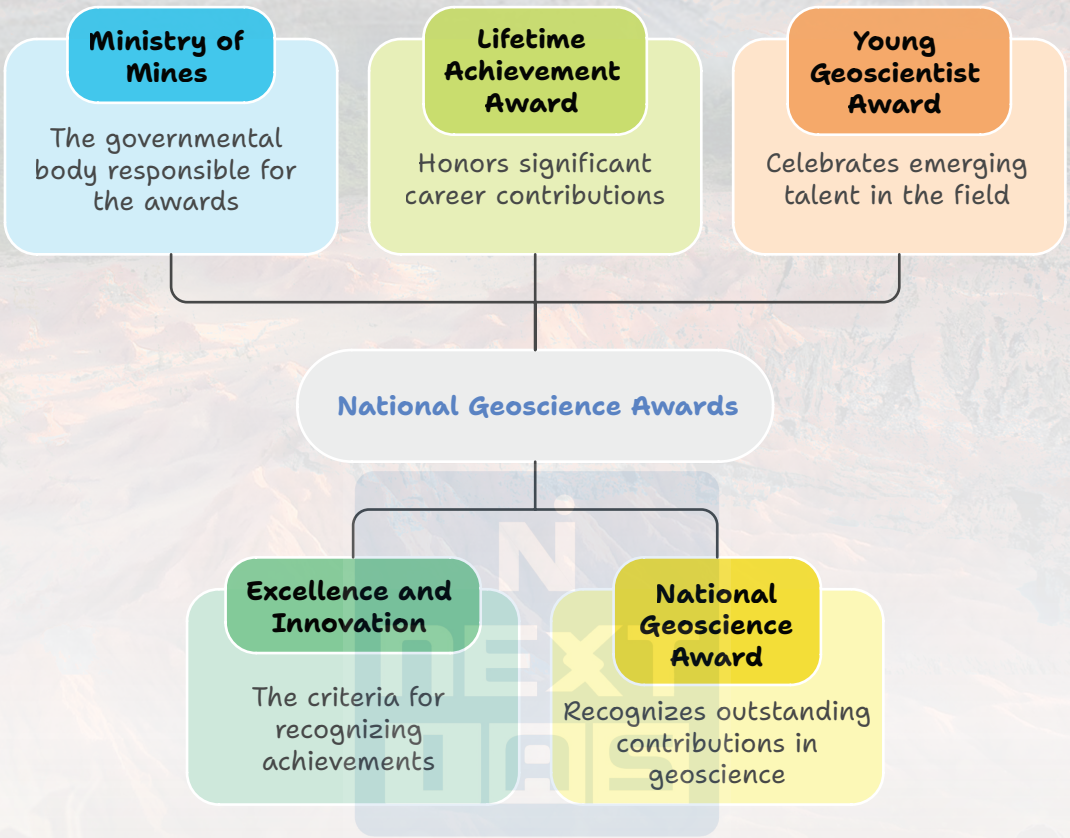
PM Surya Ghar: Muft Bijli Yojana

- It was launched in **2024** and aims to provide free electricity to households by facilitating the installation of rooftop solar panels.
- **Installation Targets:**
  - **By October 2025:** Reaching 40 lakh,
  - **March 2027:** 1 crore households.
- The scheme offers a **subsidy of up to 40%** to households, making renewable energy more affordable and accessible.
- **Eligibility:**
  - The household must be an Indian citizen.
  - The household must have a valid electricity connection.
  - The household must own a house with a roof that is suitable for installing solar panels.
  - The household must not have availed any other subsidy for solar panels.

NATIONAL GEOSCIENCE AWARDS-2024

President Droupadi Murmu presented the National Geoscience Awards-2024 at a ceremony held at the Rashtrapati Bhavan Cultural Centre.

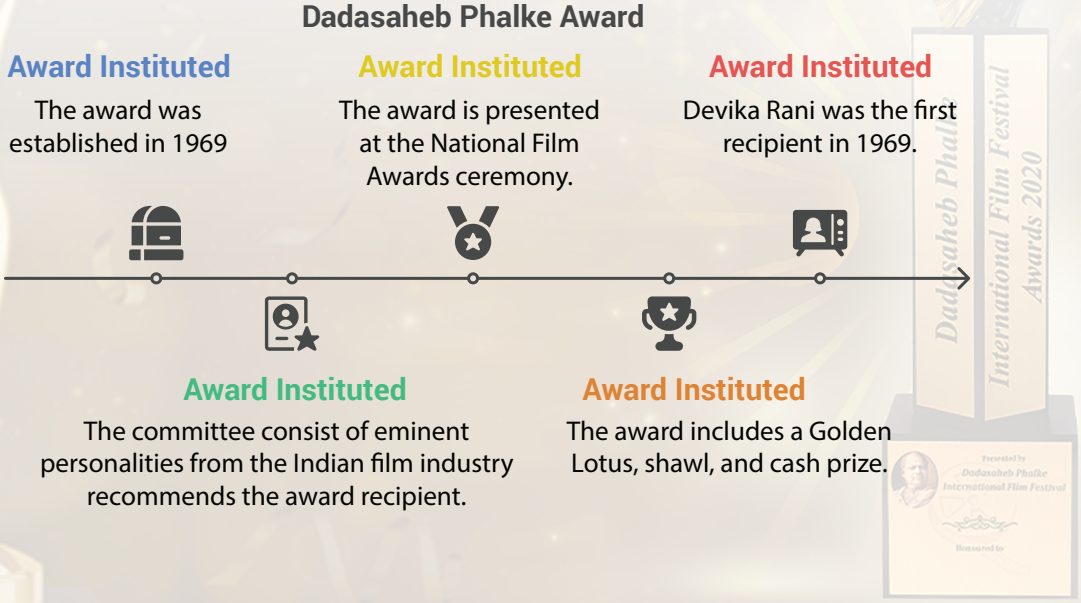
Overview of National Geoscience Awards



DADASAHEB PHALKE AWARD FOR THE YEAR 2023

Legendary actor, director, and producer Mohanlal will be conferred the prestigious Dadasaheb Phalke Award for the year 2023.

Dadasaheb Phalke Award



11 DATA RECAP

Persons with Disabilities (PwDs)

- India has **26.8 million PwDs (2.21% of population)** — 69% in rural areas (Census 2011).
- **RPwD Act, 2016** raised reservation to 4% in jobs and 5% in higher education and recognizes 21 disabilities.
- **Key welfare schemes:** Accessible India Campaign, ADIP Scheme, and Deendayal Disabled Rehabilitation Scheme (DDRS).
- **Supreme Court (2025)** termed denial of merit-based inclusion for PwDs as **"hostile discrimination."**

Judicial Pendency

- 88,492 cases pending in the Supreme Court (69,605 civil + 18,887 criminal).
- **Judge-population ratio:** only 21 judges per million, vs recommended 50.
- **E-courts and NJDG** introduced for digital filing and real-time tracking.
- **Undertrials form 76%** of total prisoners — showing delay in justice delivery.

Forest Rights Act (UNDP Report)

- **FRA, 2006** recognizes both individual and community forest rights.
- **Poor record-keeping** — many FRA titles missing (notably in Chhattisgarh).
- **Sunset clause rejected:** Gram Sabhas should decide when recognition is complete.
- **Link FRA with NRLM and PESA** for stronger self-governance and livelihoods.

Visakhapatnam Declaration on E-Governance (2025)

- **Theme:** "Viksit Bharat: Civil Service and Digital Transformation."
- Promotes **AI, ML, Blockchain, IoT** in governance and citizen services.
- Digital literacy only 38%; internet access 17% rural vs 44% urban.
- **DBT saved ~$27 billion** by plugging leakages and removing intermediaries.

Attorney General of India

- Established under Article 76; appointed by the President.
- **R. Venkataramani** reappointed for two years (2025).
- **Tenure not fixed**, holds office at **President's pleasure.**
- **Private practice allowed**, causing potential conflict of interest.

SCO Summit 2025 (Tianjin, China)

- **Laos joined**; total membership now 27 countries (10 full + 17 partners).
- China pledged **¥2 billion + ¥10 billion loans** for SCO development.
- **India refused to endorse BRI,** upholding sovereignty concerns.
- SCO members represent 23% of global GDP and 42% of world population.

India–Singapore Relations

- **Bilateral trade:** USD 34.3 billion (2024–25); **trade deficit:** USD 8.3 billion.
- **Singapore = top FDI source** (USD 14.9 billion, 24% of total inflows).
- **UPI–PayNow link** deepened fintech and payment connectivity.
- **JNPA Phase-2** terminal (with PSA) handles 54% of India's container cargo.

India–Mauritius Relations

- **Bilateral trade:** USD 554 million (2022–23); **FDI:** USD 180 billion (2000–2025).
- 17.5 MW floating solar plant under new energy MoU.
- **USD 1 billion aid** from India for healthcare, education & infrastructure.
- **USD 100 million Line of Credit** for defence; Dornier aircraft & Dhruv helicopters supplied.

Banking Sector

- **Banking Laws (Amendment) Act 2025:** 19 amendments to improve governance & auditing.
- **Cyber incidents:** Banks account for ~20% of India's total cyber attacks.
- **4R Strategy (2014):** Recognition, Resolution, Recapitalisation, Reform for PSBs.
- **Indradhanush Framework (2015):** 7-pillar reform plan for bank revival.

Pulses Sector

- **India:** 38% global area & 28% output; average yield 0.74 t/ha vs 0.97 global avg.
- **Mission Aatmanirbharta in Pulses (2025–31):** Focus on tur, urad & masoor.
- **111 high-potential districts** under "One Block–One Seed Village" model.
- **Buffer stock:** 1.5 lakh tonnes maintained for price stability.

Blue Economy

- Blue Revolution launched 2015; PMMSY enhanced eco-sustainable fisheries.
- Private investment only 15% under Sagarmala.
- Deep Ocean Mission (2021) for exploration and clean energy.
- **Target:** Train 50,000 under Blue Skills Programme by 2028.

TEST YOURSELF

Objective Questions

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SUBJECTIVE QUESTIONS

GS PAPER-I

1. How do social, economic, and cultural factors, including patriarchy and gender stereotypes, contribute to domestic violence and gender inequality in India? Explain. ***(10 Marks, 150 Words)***

2. Sarnath holds great historical and religious significance in the spread of Buddhism. Explain its importance with reference to Buddha's first sermon and Sanghagrowth. Examine. ***(10 Marks, 150 Words)***

3. Tropical cyclones arise from interactions between the ocean and atmosphere. Discuss their causes and regional distribution with special reference to the Indian Ocean. ***(10 Marks, 150 Words)***

4. Describe the art and crafts of the Indus Valley Civilization (IVC), what are the key features of the harappan civilization and discuss its impact on modern archaeological practices. ***(15 Marks, 250 Words)***

5. Rapid urbanization in India has created social and health challenges and widened inequalities. Discuss. ***(15 Marks, 250 Words)***

6. Is Indian secularism truly inclusive, or does it overlook the nation's cultural and religious traditions? Discuss with reference to tolerance, assimilation, and pluralism. ***(15 Marks, 250 Words)***

GS PAPER-II

7. The Rights of Persons with Disabilities Act, 2016 remains ineffective without greater awareness among officials and citizens. The Supreme Court's remark that existing PwD reservation practices amount to "hostile discrimination" has implications for India's affirmative action policy. Discuss. ***(15 Marks, 250 Words)***

8. Alternative Dispute Resolution (ADR) is not just a legal mechanism but also a tool for social change. How can strengthening ADR, especially arbitration and mediation, help address India's rising case backlog? Examine. ***(15 Marks, 250 Words)***

9. Tribal communities face the dual challenge of preserving their culture while joining mainstream development. Discuss this in the context of the Forest Rights Act, 2006 and the Protection of Aboriginal Tribes Act, 1956. ***(10 Marks, 150 Words)***

10. In the age of Digital India and Artificial Intelligence, what should guide the next phase of e-governance to ensure transparency, inclusion, and citizen trust? Critically analyze. ***(10 Marks, 150 Words)***

11. China's growing economic and military power has reshaped Asia's geopolitics. How does India's approach to the SCO reflect its strategic autonomy and global vision? Examine. ***(10 Marks, 150 Words)***

12. India-Singapore relations play a key role in India's Act East policy. How have these ties evolved and strengthened over the past decade? Examine. ***(10 Marks, 150 Words)***

GS PAPER-III

13. The banking sector is vital for inclusive and sustainable growth in India but faces major structural challenges. Discuss. ***(15 Marks, 250 Words)***

14. Discuss the objectives of India's National Logistics Policy and explain how multimodal transport can reduce logistics costs and boost global competitiveness. Illustrate with examples. ***(15 Marks, 250 Words)***

15. India's economy has rapidly shifted from agriculture to services, skipping the industrial stage. Can India achieve developed-nation status without a strong industrial base? What explains the faster growth of services? Critically examine. ***(15 Marks, 250 Words)***

16. Critical minerals are key to India's economic security and energy independence. Critically examine. ***(15 Marks, 250 Words)***

17. What is ethanol blending, and how does it support India's energy goals? Discuss the challenges in its implementation and suggest measures for improvement. Examine. ***(10 Marks, 150 Words)***

18. In the 21st century, borders are as much digital as physical. Examine India's vulnerabilities to cyber threats and suggest measures to strengthen its cyber defense and digital sovereignty. ***(10 Marks, 150 Words)***

19. Examine the growth potential of India's semiconductor sector and suggest measures to achieve self-reliance. ***(10 Marks, 150 Words)***

20. Critically examine the role of indigenous missile development in enhancing India's strategic autonomy. Explain with examples of key missile systems and their impact on national security and regional power balance. ***(15 Marks, 250 Words)***