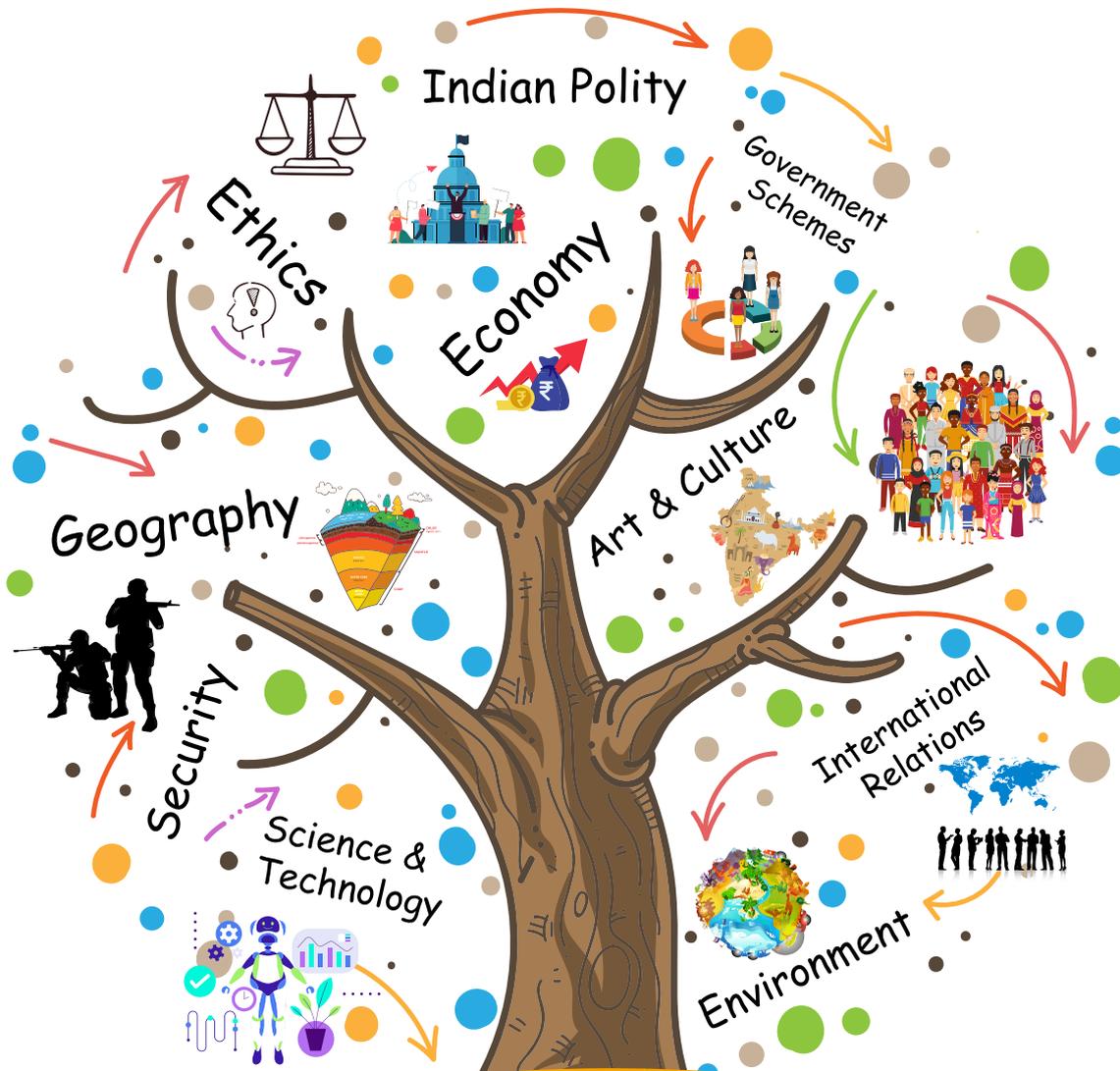


DECEMBER 2025

# Current Affairs



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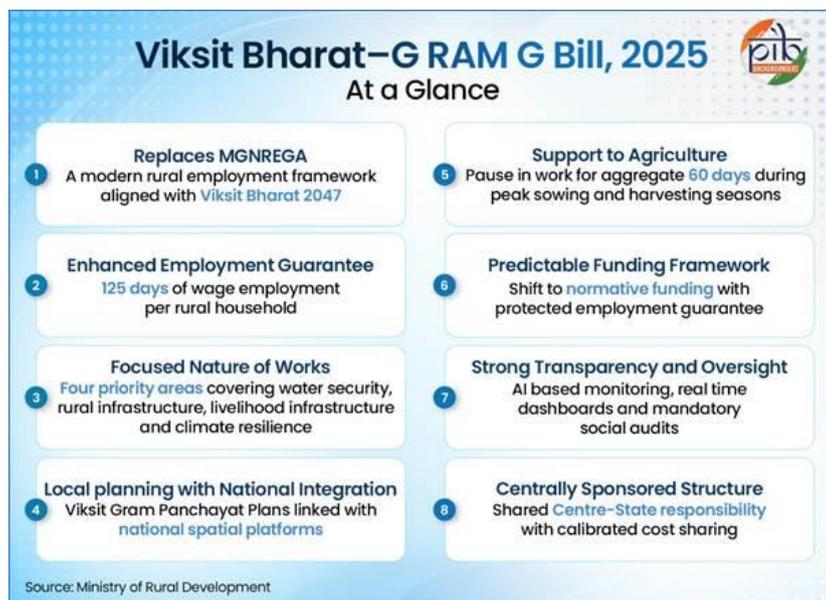
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## Focal Point- December 2025

### The Viksit Bharat-Guarantee for Rozgar and Ajeevika Mission (Gramin) (VB-G RAM G) Act, 2025- Bill to replace MGNREGA

In News: The Viksit Bharat-Guarantee for Rozgar and Ajeevika Mission (Gramin) (VB-G RAM G) Act, 2025 replaces MGNREGA, 2005.



#### About Mahatma Gandhi National Rural Employment guarantee Act 2005 (MGNREGA)

- MGNREGA was launched in 2005 by the Ministry of Rural Development as one of the largest work guarantee programmes in the world.
- The primary objective of the scheme is to guarantee 100 days of employment in every financial year to adult members of any rural household willing to do public work-related unskilled manual work.

#### How was MGNREGA different?

- Unlike earlier employment guarantee schemes, the act aims at addressing the causes of chronic poverty through a rights-based framework.
- At least one-third of beneficiaries had to be women.
- Wages must be paid according to the statutory minimum wages specified for agricultural labourers in the state under the Minimum Wages Act, 1948.
- The most unique feature of MGNREGA was that it was legally-backed guarantee for any rural adult to get work within 15 days of demanding it, failing which an 'unemployment allowance' must be given. Hence, this demand-driven scheme enables the self-selection of workers.

The act mandated Gram sabhas to recommend the work to be undertaken and at least 50% of the works must be executed by them.

#### Need for VB-G RAM G?

Rural employment has been a cornerstone of India's social protection framework for nearly two decades. Since its enactment in 2005, the Mahatma Gandhi National Rural Employment Guarantee Act

(MGNREGA) played a key role in providing wage employment, stabilising rural incomes and creating basic infrastructure.

Over time, however, the structure and objectives of rural India have evolved significantly. Rising incomes, expanded connectivity, widespread digital penetration and diversified livelihoods have altered the nature of rural employment needs.

The President of India has approved the Viksit Bharat-Guarantee for Rozgar and Ajeevika Mission (Gramin) Bill, 2025. This marks a key moment in improving rural job programs.

The Viksit Bharat-Guarantee for Rozgar and Ajeevika Mission (Gramin) Act, 2025 completely updates MGNREGA. It connects rural employment to India's vision of Viksit Bharat by 2047. It also improves accountability, builds stronger infrastructure, and ensures better income security for people.



## Key features of the Viksit Bharat-G RAM G Act, 2025:

### Guaranteed Employment:

- Provides 125 days of wage work per year to rural households where adults volunteer for unskilled manual jobs.
- Increases from the previous 100 days, boosting income security.
- Includes a 60-day "no-work" period during peak sowing and harvesting to support farming.
- Workers still get the full 125 days in the remaining 305 days, benefiting both farmers and laborers.

### Wage Payments:

- Wages paid weekly, or at latest within 15 days of completing the work.

### Focus on Infrastructure:

- Links job creation to building key rural assets in four priority areas:
  - Water security (e.g., water-related projects).
  - Core rural infrastructure.
  - Livelihood-related infrastructure.
  - Special works to handle extreme weather events.
- All assets created are aggregated into the **Viksit Bharat National Rural Infrastructure Stack**, ensuring a unified, coordinated national development strategy.

- Planning is decentralized through **Viksit Gram Panchayat Plans**, which are prepared locally and spatially integrated with national systems such as **PM Gati Shakti**.

## MGNREGA Vs VB-G RAM G Act

Aspect	MGNREGA (Earlier Scheme)	Viksit Bharat-G RAM G Act, 2025
Scheme Type	Central sector scheme (fully funded by Centre)	Centrally sponsored scheme (shared funding and responsibility)
Cost Sharing	Centre bore full wage costs; states handled some material/admin	60:40 ratio (Centre:States); 90:10 for NE/Himalayan states; 100% Centre for certain UTs
State Role	Limited responsibility; less incentive for efficiency	States share costs and execution; stronger incentives via normative allocations
Planning	Less emphasis on local realities	Grounded in Gram Panchayat Plans for region-specific needs
Total Annual Funds	Not specified in new details	₹1,51,282 crore (wages, materials, admin); Centre share: ₹95,692 crore
Accountability	Weaker oversight; prone to misuse	Cooperative Centre-state partnership; disaster aid; anti-misuse mechanisms
Overall Impact	Structural weaknesses in transparency and efficiency	Fixes weaknesses; boosts employment, planning, and fiscal sustainability

### Benefits of the Viksit Bharat-G RAM G Act

The Act boosts the rural economy by creating jobs and useful assets. This raises family incomes and builds stronger villages.

#### Key Wins for Everyone:

- Focuses on water projects to help farming and recharge groundwater.
- Builds roads and links to reach markets easily.
- Adds storage, markets, and tools for new income sources.
- Prepares for climate issues with water harvesting, flood drains, and soil protection.

#### For Households and Workers:

- Guarantees 125 days of work, increasing earnings and local spending.
- Cuts migration by offering steady jobs.
- Uses digital tools for attendance, fast wages, and smart planning.

#### Special Help for Farmers:

- Pauses public works during busy planting and harvest times for reliable labour.
- Controls wage hikes and improves water, storage, and roads.

#### Gains for Labourers:

- More pay potential and planned jobs via Viksit Gram Panchayat Plans.
- Safe digital payments and benefits from the assets they build.
- Unemployment allowance if no work after 15 days (states pay; rules set rates).

**The Viksit Bharat- Guarantee for Rozgar and Ajeevika Mission (Gramin) Act, 2025**, represents a decisive shift in India's rural employment policy. While **MGNREGA** achieved significant gains in participation, digitisation, and transparency over time, persistent structural weaknesses limited its effectiveness. The new Act builds on past improvements while addressing their shortcomings through a modern, accountable, and infrastructure-focused framework.

By expanding guaranteed employment, aligning work with national development priorities, and embedding strong digital governance, the Act repositions rural employment as a strategic instrument for sustainable growth and resilient livelihoods, fully aligned with the vision of **Viksit Bharat 2047**.



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## Governance and Polity

### Addressing Digital Arrest Scams

**In News:** The Supreme Court of India has given the Central Bureau of Investigation (CBI) a free hand to investigate ‘digital arrest’ scams nationwide, after the Union government reported that fraudsters had siphoned off about Rs. 3,000 crore, largely from senior citizens.

#### Tough action

The Supreme Court has asked the Central Bureau of Investigation (CBI) to crack down on ‘digital arrest’ scammers

##### THREE CATEGORIES OF CYBER SCAMS IDENTIFIED BY SC

■ **Digital arrests:** Victims are made to believe government authorities are entitled to their hard-earned money, and they are subjected to coercive acts of extortion

■ **Investment scams:** Victims are lured by attractive investment schemes to deposit large amounts, but eventually are duped of the money. The fraudsters continue to coin different terminologies to dupe victims. In some of the cases, the money is sought in the name of ‘advance tax’

■ **Part-time jobs:** Victims are paid for ‘free tasks’ like positive reviews or watching YouTube. They are later made to pay huge amounts for ‘premium tasks’



A note provided by the Union government in the Supreme Court showed that ₹3,000 crores had already been scammed by fraudsters from victims, mostly drawn from the elderly population, through ‘digital arrests’.

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#### Supreme Court’s Directions on Digital Arrest and Cyber Fraud Cases

- CBI Investigation:** The Supreme Court has authorized the CBI to lead investigations into “digital arrest” scams first, followed by fraudulent investment and part-time job scams.
- Jurisdiction under DSPE Act, 1946:** All states and union territories have been asked to give consent under the Delhi Special Police Establishment (DSPE) Act so that the CBI can operate across India.
- Global Coordination (INTERPOL):** The Court directed the CBI to collaborate with INTERPOL to track and identify international cybercrime networks involved in these scams.

- d. **Financial Tracking (RBI's Role):** The Reserve Bank of India (RBI) has been asked to explore using Artificial Intelligence (AI) and Machine Learning (ML) tools to detect money “layering” — when fraudsters move money between multiple accounts to hide its source.
- e. **Digital Platform Compliance:** Online and social media platforms must cooperate with investigators under the IT Rules, 2021, and provide user and transaction data when required.
- f. **Institutional Strengthening:** States and union territories must set up regional cybercrime coordination centres and connect them with the Indian Cybercrime Coordination Centre (I4C).
- g. **Telecom Department's Responsibility:** The Department of Telecommunications must propose stricter SIM card issuance norms and improve KYC verification to prevent misuse of mobile numbers in scams.

## Digital Arrests?

Digital arrest is a type of cyber scam where fraudsters pretend to be police, CBI, RBI, cybercrime officials, or other authorities and falsely claim that the victim is involved in serious crimes like money laundering or cybercrime.

### How the scam works?

- The victim is accused of fake offences (drug trafficking, money laundering, cybercrime, courier parcel case, etc.) and threatened with immediate arrest, frozen bank accounts, or passport cancellation.
- To look genuine, scammers send fake IDs, FIRs, arrest warrants, official-looking documents, or doctored videos and may spoof official phone numbers.
- The victim is isolated (told not to contact family or lawyers) and then forced to transfer money as “fine”, “bail”, “security deposit”, or to “safe accounts”, sometimes even in cryptocurrency.

The real aim is extortion: to steal money or sensitive data (bank details, OTPs, Aadhaar, PAN, etc.).

### Why is Supreme Court's directive significant?

The Supreme Court's direction to the CBI to conduct a pan India investigation into cyber rimes and digital arrest might seem extraordinary as such directions normally require state Government's consent.

### Other facts about Digital scams:

- a. **Mule Account:** A "mule account" (or money mule account) is a bank account used by criminals to launder illegal money. Criminals lure individuals with promises of easy money for a "job" or dating offers, asking for their bank details, the stolen amount is sent to a mule account thereafter the amount is transferred to other accounts. Hence a complex trail of financial transactions is created.
- b. **Transnational Scams:** scam centres are compounded where trafficked individuals are unable to escape due to violence, confiscated documents or debt bondage. They are forced to run online fraud operations in conflict ridden zones especially in South East Asia for example Myanmar. This suggests that the solution requires robust international diplomacy.
- c. **Proceeds from such scams go into funding illegitimate operations:** For instance, Myanmar remains a hotbed for such activities primarily because the illegally ruling junta benefits from taxing

the proceeds of such crimes.

## Way Ahead:

New Delhi should act in cohesion with ASEAN and the UN to sanction the illegal regime and cut off the financial lifelines of these modern day slavery sweat shops.

## 2. SHANTI Bill 2025

In News: Parliament cleared the Sustainable Harnessing and Advancement of Nuclear Energy for Transforming India (SHANTI) Bill, 2025 in the Lok Sabha.

The new bill seeks to repeal the Atomic Energy Act, 1962 and the Civil Liability for Nuclear Damage Act, 2010

### Entry of Private players

- SHANTI Bill 2025 opens India's nuclear power sector to private companies alongside public ones. They can now handle nuclear plants, plus transport, store, import, and export of nuclear fuel, tech, equipment, and minerals—tasks once limited to government entities only.

### Strict Regime

- Even though the bill has opened the entry of private players, the law retains a stringent safety regime. All entities must obtain mandatory safety authorization from the Atomic Energy Regulatory Board (AERB).
- Authorization is required for the manufacture, possession, use, transport, import, export and disposal of radioactive substances, radiation-generating equipment, and for establishing, operating or decommissioning radiation facilities

### Foreign Investment

- The Bill does not explicitly permit foreign direct investment in nuclear power. Section 3(e) allows participation by “any other person” expressly permitted by the Central Government through notification.

### Sensitive tasks stay solely with the Central Government

- Enriching and separating isotopes from radioactive materials
- Reprocessing spent fuel and managing high-level waste
- Producing and upgrading heavy water

### Why was Opposition against the passing of the Bill?

Advancement of Nuclear Energy for Transforming India (SHANTI) Bill, 2025 has ignited sharp criticism from opposition parties, scientists, and civil society groups.

- The legislation could fundamentally alter India's nuclear governance by opening the sector to private players while weakening liability, regulatory independence and public oversight.
- The bill was passed without being sent to the select committee for recommendations.



- The government argues the reforms are essential to scale up nuclear power to meet climate and energy security goals. Critics, however, say the Bill prioritizes investment over safety and accountability in one of the country's most hazardous sectors.
- The Bills allows "any company" or "any person expressly permitted by the Central Government" to obtain licenses across the nuclear fuel cycle—ranging from uranium mining and fuel fabrication to reactor operation and reprocessing. This could raise risks of misuse.
- The legislation retains an overall liability cap of 300 million Special Drawing Rights (around Rs 3,900 crore) per nuclear incident—unchanged from the 2010 law—despite inflation, higher reactor capacities, and lessons from disasters such as Fukushima.
- The central government assumes liability once the operator's cap is exhausted, effectively underwriting catastrophic risk. Civil society groups argue this shifts the financial burden of nuclear accidents from private operators to taxpayers, while allowing companies to retain profits during normal operations.
- The Bill also narrows the operator's right of recourse against suppliers, limiting it largely to contractual arrangements or intentional acts.
- Liability framework is misaligned with the real economic costs of a major nuclear accident. Studies estimate Fukushima's cleanup and compensation costs at over \$180 billion, far exceeding India's proposed liability ceiling.
- Only central government or AERB-authorized officials can file criminal complaints for nuclear offenses under the SHANTI Bill. Affected communities, civil society, and state governments cannot directly approach courts.

## Strengthening Nuclear power governance in India

- a. **Regulatory Independence:** Give AERB true autonomy with transparent appointments, separate funding, and shields from government meddling.
- b. **Safety vs. Investment Balance:** Regularly update liability caps for inflation and risks, upholding "polluter pays" without scaring investors.
- c. **Boost Public Trust:** Mandate sharing safety audits, accident reports, and emergency plans to ease fears from past disasters.
- d. **Centre-State Emergency Coordination:** Set clear rules for Centre, states, and locals to handle nuclear crises, especially with private players.
- e. **Waste & Decommissioning Rules:** Enforce strict norms for long-term waste storage and plant shutdowns before private sector grows.

India needs robust nuclear governance to balance private sector entry under the SHANTI Bill 2025 with safety, liability, and public trust. Weak oversight risks accidents, waste mishandling, and eroded confidence amid historical disasters like Bhopal.

## 3. Parliament should not be reduced to a political stage

**Context:** Parliament sessions are usually held thrice a year: once in February for the Budget Session, once around July or August for the Monsoon Session, and once in November for the Winter Session. This year the winter session was scheduled for 15 days.

The uproar in Parliament over the shortened 15-day Winter Session, which began on December 1, underscores the growing rift between the government and opposition. It also spotlights Parliament's declining productivity, urging a fresh look at its schedule and procedures.

## Decline in productivity of the Parliament:

The session from December 1 to 19 was the fourth shortest since the BJP-led NDA government took power in 2014. It made the total Parliament sittings in 2025 just 62. Experts say this low number shows Parliament is weakening as a key part of democracy.

The number of sittings of Parliament in recent years stands in sharp contrast with the 1950s, when the Lok Sabha met for an average of 130 days a year.

## The decline in the number of sittings of Parliament reflects an undermining of the institution's importance.

- a. **Impact on parliament's functions:** Parliament broadly has four functions- passing laws, approving the Budget, holding the government accountable, and offering a platform to raise people's issues.
- b. **Undermining significance of parliament:** shorter duration shows that either the government has no business to transact or it may not be giving adequate importance to Parliament. Additionally, parliament also discusses problems faced by people, which too gets impacted by a short parliamentary session.
- c. **Decline in Democracy:** As per the constitutional scheme of things, it is the government that is empowered to convene Parliament given the gap between two sessions should not be greater than six months. In more mature democracies, parliaments meet through the year on a fixed calendar. They sit for anywhere between 120 and 150 days, with breaks for festivals and other occasions. Therefore 62 parliament sitting is severely inadequate for Indian democracy.
- d. **Theory of checks and balance:** Fewer parliamentary sittings expand the government's executive space with diminished institutional checks. Parliamentary time is more than procedural, it's the key forum for citizens' concerns, voiced by representatives, to shape statecraft. Thus, fewer sittings weaken deliberative democracy.
- e. **A troubling recent trend:** Bills passed with minimal discussion, often amid chaos. Experts note this prevents MPs from properly analyzing legislation, spotting issues like legal flaws, or addressing public and stakeholder concerns.
- f. **Parliament's erosion of values:** Both Rajya Sabha and Lok Sabha now prioritize dispute over debate, disorder over discourse, and disruption over discussion. Government and opposition clash constantly, favoring political battles over policymaking—opposition stalls proceedings, while government bulldozes ahead.
- g. **Bypassing Question hour:** The shrinkage of Question Hour, coupled with budgets passed sans adequate discussion, erodes Parliament's role as a vital institution. Disruptions have been the main reason for the reduced duration of the Question Hour

## PARLIAMENT OVER THE DECADES

■ The number of sittings in the Lok Sabha has gone down from an average of 121 days a year between 1952-70 to 68 days since 2000.

■ The 17th Lok Sabha between 2019 and 2024 had the fewest sittings (274) for a full-term house.

■ The 17th Lok Sabha did not elect a Deputy Speaker for the entire term in what was a first for the lower house. The post remains vacant in the ongoing 18th Lok Sabha.



### 2004-2024 in a nutshell

#### 14th Lok Sabha (2004-2009):

Sittings	332 days
Time utilised	87%
Bills passed	248
Bills sent to committees	60%

#### 15th Lok Sabha (2009-2014):

Sittings	356 days
Time utilised	61%
Bills passed	179
Bills sent to committees	71%

#### 16th Lok Sabha (2014-2019):

Sittings	331 days
Time utilised	84%
Bills passed	133
Bills sent to committees	25%

#### 17th Lok Sabha (2019-2024):

Sittings	274 days
Time utilised	88%
Bills passed	179
Bills sent to committees	16%

### Worst washouts in the last two decades

Winter Session of 2010	Lok Sabha 5%	Rajya Sabha 2%
Winter Session of 2013	Lok Sabha 8%	Rajya Sabha 19%
Winter Session of 2016	Lok Sabha 15%	Rajya Sabha 18%
Budget Session of 2014	Lok Sabha 21%	Rajya Sabha 27%
Budget Session of 2018	Lok Sabha 21%	Rajya Sabha 27%

### Significance of parliamentary sitting:

Parliamentary sittings are crucial to Indian democracy because they are the primary mechanism through which the government is held accountable to the people, laws are made and amended, and national issues are debated.

- Executive Accountability:** This is a cornerstone of the parliamentary system. Through mechanisms like the daily Question Hour, debates, and motions (such as no-confidence motions), the Council of Ministers (the executive) is held responsible to the Lok Sabha (House of the People). This ensures the government remains sensitive to people's needs and demands.
- Law-Making:** Parliament is the supreme legislative body responsible for enacting, amending, and repealing laws for the country. Bills are introduced, scrutinized (often in parliamentary committees), debated, and voted upon during sessions before receiving presidential assent to become Acts.
- Financial Control:** Parliament must approve all taxes and spending. Sittings are key for presenting and debating the Union Budget, where MPs check expenditures and policies to ensure public money is spent efficiently and transparently.
- Representation of the People:** Parliament acts as a "nation in miniature," mirroring India's diversity. MPs from various regions and parties raise local issues, bringing public concerns to the national level for policymaking.
- Deliberation and Consensus Building:** Sittings enable deep debates on national and global issues. While floor debates can be heated, committees allow detailed, non-partisan reviews that often build cross-party consensus.
- Constitutional and Judicial Functions:** Parliament amends the Constitution and impeaches top officials like the President, Vice-President, and judges. This strengthens checks and balances in the system.

## Why is a Parliament sitting imperative for Democracy?

- Raising Issues: MPs highlight public concerns in Parliament and check government responses via debates (minister replies) or motions (votes).
- Time Allocation: Business Advisory Committee (ruling + opposition members) decides time for debates and Bills.
- Discussion Tools: Cover key matters, policies, and current events; ministers may assure actions.
- Types of Motions:
  - Debate urgent issues (e.g., inflation, corruption).
  - Adjourn business to protest government policies.
  - No-confidence vote to force government resignation.

Motion Type	Brief Description
Debate Motion	MPs discuss public issues; minister replies with assurances or actions.
Adjournment Motion	Halts normal business to protest government policies or urgent matters (needs 50 MPs' support; Lok Sabha only).
No-Confidence Motion	Expresses lack of faith in government; passage forces resignation (Lok Sabha only).
Censure Motion	Criticizes specific government policies/actions without requiring resignation.
Calling Attention Motion	Draws minister's attention to urgent public issues for immediate response.
Cut Motion	Opposes budget allocations (e.g., policy cut, token cut) during Finance Bill debates.
Privilege Motion	Addresses breach of MPs' privileges by ministers or others

The Constitution provides for the legislature to make laws, the government to implement laws, and the courts to interpret and enforce these laws. While the judiciary is independent from the other two branches, the government is formed with the support of a majority of members in the legislature. Therefore, the government is collectively responsible to Parliament for its actions. This implies that Parliament (i.e. Lok Sabha and Rajya Sabha) can hold the government accountable for its decisions, and scrutinize its functioning.

A shorter duration may impact the working of democracy and undermine the overall well-being of the country.

## 4. Right to Disconnect

Context: A private member's bill (PMB) titled the Right to Disconnect Bill 2025, was introduced in the Lok Sabha, it seeks to legally protect employees from after-hour work demands and reinforce healthy work-life

balance.

The Bill aims to establish an Employees' Welfare Authority to confer the right on every employee to disconnect from work-related calls and e-mails beyond work hours and on holidays.

## India's Recent Developments

India's Right to Disconnect Bill 2025, introduced by MP Supriya Sule in Lok Sabha (December 2025), lets employees ignore non-emergency calls, emails, or messages outside work hours without penalty. It mandates employer policies, an Employees' Welfare Authority for oversight, and fines (1% of payroll) for violations. Kerala proposed a similar state bill in 2025 for private sector workers.

## Background:

Anna Sebastian Perayil, a young employee at E&Y died of overwork in 2024. This sparked a debate on work-life balance and how 24\*7 digital availability is becoming a chronic reason for burgeoning national mental health problems.

## Need for Right to disconnect:

- a. **Value for human resource:** as India treads on the path of becoming a global power, human resource is of utmost value. India's workforce is operating under extreme pressure; this hampers their productivity.
- b. **Need to break cog in a wheel:** In an era defined by hyper-connectivity and digital dependency, the boundaries between professional obligations and personal life have become increasingly porous. Tools like Zoom, WhatsApp, Slack, and email erase work-life lines which further erodes creativity of a person.
- c. **Healthy population:** severe work load is causing not only fatigue but lifestyle diseases such as anxiety, hypertension, and depression which affects the quality of life and overall growth of an individual.

## Provisions of the bill

Provision	Description
Right to Ignore	Employees can legally disregard non-emergency work calls, emails, messages after hours or on holidays without penalty.
Company Policies	Employers must create clear after-hours contact rules, consulted with employees.
Overtime Pay	Compensation required if employees respond outside regular hours.
Employees' Welfare Authority	New body to monitor compliance, handle complaints, impose fines (up to 1% of payroll), and oversee digital detox centres.
No Retaliation	No disciplinary action for not responding to after-hours communication.
Exceptions	Allowed for emergencies or mutually agreed times.
Support Measures	Government counselling for work-life balance and stress management

## 5. Digital Constitutionalism

**Context:** The government rolled back its order requiring use of the Sanchar Saathi app. This happened after people raised worries about consent, surveillance, and misuse of data, this has sparked a big national discussion on digital constitutionalism.

### Digital Constitutionalism:

Constitutionalism is a historical concept whose main values and principles have constantly evolved and are still evolving today. Digital constitutionalism embodies the idea of projecting the values of contemporary constitutionalism in the context of the digital society.

### Features of Digital constitutionalism:

- a. **Constituents of Digital constitutionalism: Key Features of Digital Constitutionalism:** The features of digital constitutionalism are focusing on new actors, new forms of power, and multi-level governance.
- b. **Protection of Digital Rights:** Ensures fundamental rights like privacy, freedom of expression, and access to information are upheld in the digital space, safeguarding citizens against misuse of technology by both the state and private actors.
- c. **Accountability of Digital Platforms:** Holds digital companies accountable for respecting user rights, ensuring transparency in how they collect, use, and share personal data, and regulating algorithms to avoid discrimination and censorship.
- d. **Digital Sovereignty:** Emphasizes a nation's control over its digital space, including data residency laws, the regulation of digital infrastructure, and the protection of citizens' rights in a globalized, interconnected digital environment.
- e. **Judicial Oversight:** Ensures courts review digital laws and government actions to ensure compliance with constitutional principles, offering legal recourse if citizens' digital rights are violated by state or corporate entities.
- f. **Promotion of Digital Inclusion:** Ensures equal access to digital resources for all citizens, fostering digital literacy and enabling participation in the digital economy, regardless of socio-economic background.
- g. **Digital Systems That Now Mediate Governance:** Modern public administration and private service delivery increasingly rely on:
  - Biometric Databases
  - Aadhaar (Unique Identification Authority of India)
  - Digi Yatra Facial Recognition System

These systems authenticate identity but also create permanent biometric trails capable of large-scale surveillance.

### Difference between digital constitutionalism and traditional constitutionalism

Aspect	Traditional Constitutionalism	Digital Constitutionalism
Focus	State power and physical governance	Tech platforms, private power, digital spaces
Actors	Mainly governments	Governments + corporations (e.g., Google)
Challenges	Tyranny, abuse by rulers	Surveillance, data monopolies, AI decisions

Aspect	Traditional Constitutionalism	Digital Constitutionalism
Tools	Constitutions, courts	Data laws, platform rules, global norms
Goal	Balance public powers	Protect rights in virtual ecosystems

## Sanchar Saathi App:

It is a citizen-centric telecom security and user-protection platform developed by the Department of Telecommunications (DoT), Ministry of Communications.

To empower mobile subscribers to secure their devices and digital identities, combat cyber-related frauds, and reduce the misuse of telecom resources like stolen devices and fraudulent SIMs.

## Controversy over Sanchar Saathi App

To safeguard the citizens from buying the non-genuine handsets, enabling easy reporting of suspected misuse of telecom resources and to increase effectiveness of the Sanchar Saathi initiative, the DoT has issued Directions mandating the manufacturer and importers of mobile handsets that are intended for use in India under the provisions of the Telecom Cyber Security to:

- Ensure that the Sanchar Saathi mobile application is pre-installed on all mobile handsets manufactured or imported for use in India.
- Ensure that the pre-installed Sanchar Saathi application is readily visible and accessible to the end users at the time of first use or device setup and that its functionalities are not disabled or restricted.
- For all such devices that have been already been manufactured and are in sales channels in India, the manufacturer and importers of mobile handsets shall make an endeavour to push the App through software updates.

The mandatory inclusion of the application in personal devices has raised significant arguments in the area of user consent and constitutional rights. This has ignited debate on right to privacy of people as ruled in the landmark 2017 case Justice K.S. Puttaswamy v. Union of India.

## Government's rationale:

According to the Government, requiring the Sanchar Saathi app is a national security need. Linked to the Central Equipment Identity Register (CEIR), it helps spot stolen or cloned phones, stop spam calls, and better manage digital IDs. With rising cybercrime and mobile fraud, officials say it's essential. The app acts as a safeguard for citizens, boosts telecom accountability, and makes mobile connections traceable and secure.

## Need for digital Constitutionalism:

India needs digital constitutionalism to extend constitutional protections like privacy and equality into its massive digital ecosystem, where tech often outpaces laws. With over 900 million internet users, Aadhaar's 1.4 billion biometrics, and rising AI in governance, unchecked surveillance and data misuse threaten fundamental rights under Articles 14, 19, and 21.

## Post-Puttaswamy Mandate

After the 2017 Puttaswamy ruling recognized privacy as a fundamental right under Article 21, all state digital systems must pass necessity, proportionality, and fairness tests. This demands a rights-based digital framework.

## Tech's Developmental Wins

Digital tools like JAM Trinity (Jan Dhan-Aadhaar-Mobile) integrated 520 million into the formal economy

and cut welfare leakages by ₹2.7 lakh crore. Future systems must embed Privacy and Security by Design.

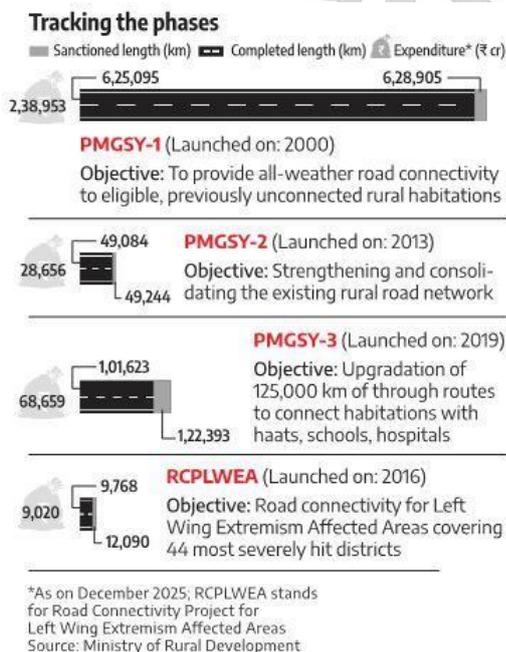
Digital constitutionalism lets India reap tech benefits like JAM Trinity while protecting privacy and rights. Reforms, surveillance laws, DPDP fixes, AI audits—prevent bias and overreach. It keeps citizens as rights-holders in a democratic digital era.

## 6. 25 years of PM Gram Sadak Yojana

Context: The Government of India is celebrating 25 years of Pradhan mantra gram Sadak Yojana.

PM Gram Sadak yojana:

- Launched on 25 December 2000 to ensure all-weather connectivity to previously unconnected rural habitations, the programme has emerged as a key enabler of agricultural growth, employment generation, improved access to education and health services, and poverty alleviation.
- Over time, PMGSY has evolved into a key driver of socio-economic transformation, strengthening market integration, facilitating better price realization for farmers, and supporting both farm and non-farm livelihoods.
- Funding: Currently operates on a cost-sharing ratio of 60:40 between the Centre and States, with 90:10 for North-Eastern and Himalayan States.
- PMGSY-IV Plan: Under Phase IV (2024–29), 62,500 km of roads will be constructed to connect 25,000 habitations, with an estimated outlay of ₹70,125 crores.



### Advanced technology in PMGSY

- e-MARG (electronic Maintenance of Rural Roads):** The e-MARG platform now monitors PMGSY road maintenance across all states for five years' post-completion (Defect Liability Period). Contractor payments during this phase tie directly to road performance and quality. This system boosts accountability, maintenance standards, and road durability.

- b. Use of Global Positioning System (GPS):** Since May 2022, GPS-enabled Vehicle Tracking Systems (VTS) are mandatory on all contractor and PIU vehicles, machinery, and equipment for PMGSY III works. This enables real-time monitoring of deployment and usage, ensuring process compliance and road quality standards.
- c. Online Management, Monitoring, and Accounting System(OMMAS):** OMMAS provides real-time monitoring of PMGSY works, aligning physical and financial progress with state targets. Integrated with PMIS for PMGSY-III, it captures independent quality checks by NQMs/SQMs via the QMS app, including geo-tagged photos, for transparent, durable rural roads.
- d. Innovation and Climate Resilience:** Innovative technologies like waste plastic, cold mix, and Full Depth Reclamation boost rural road durability and cut environmental harm. By July 2025, these methods covered over 1.24 lakh km, advancing sustainable infrastructure.

Road infrastructure constitutes a fundamental pillar of rural development, enabling access to economic and social services, enhancing agricultural incomes, creating productive employment opportunities, and making a significant contribution to poverty reduction. With nearly 95 percent of the sanctioned rural road length completed, the programme has significantly enhanced rural accessibility, strengthened market linkages, improved access to education and healthcare, and accelerated inclusive economic growth.

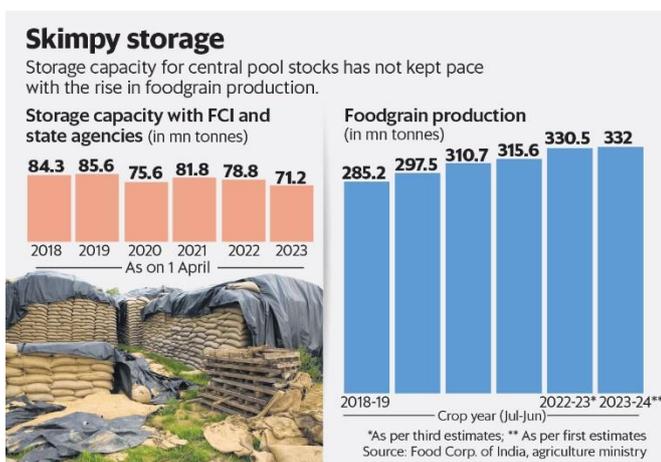
## 7. India's cereal procurement needs reforms

**In News:** Tamil Nadu's kuruvai paddy procurement mess, time delays, corruption charges highlights flaw in the food grain system. Crop area jumped 2 lakh acres by mid-August as farmers favour paddy's assured returns over riskier crops.

**Burning issue:**

**India overbuys rice and wheat because of MSP favouritism, while falling short on pulses and oilseeds production. This leads to excess cereals and heavy reliance on imports.**

India's cereal industry is facing a major crisis due to mismatches between production, procurement, and consumption. The country buys huge amounts of rice and wheat, yet it imports more pulses and edible oils. Problems like flawed procurement, lack of crop diversity, and widespread leakages highlight the need for urgent reforms to protect food security and save money.



**PROCUREMENT OF CEREALS, PULSES AND OILSEEDS BY GOVERNMENT AGENCIES (IN LAKH TONNES)**

	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
1. Rice*	518.27	601.71	575.88	568.66	500.94**	-
2. Wheat	341.33	389.93	433.44	187.92	262.02	265.53
3. Pulses	17.39	21.77	10.52	29.68	27.92	2.85
Chana	7.76	21.43	6.3	25.56	23.53	0.43
Tur/Arhar	7.22	0.11	0.49	0.03	0.27	-
Moong	1.66	0.21	3.29	4.08	3.35	0.02
Masur	0.56	0.02	0.26	-	0.76	2.4
Urad	0.18	-	0.17	0.01	-	-
4. Oilseeds	18.25	11	1.56	0.5	13.44	12.69
Mustard	10.89	8.04	Neg.	-	11.14	11.89
Groundnut	7.21	2.86	1.52	0.07	0.75	-
Copra	Neg.	0.05	Neg.	0.41	1.34	0.74
Soyabean	0.11	Neg.	-	-	0.07	-
Sunflower	0.03	0.05	0.04	0.02	0.11	0.05
Safflower	-	-	-	-	0.02	-

Note: Data for April-March financial year; \*For October-September marketing year; \*\*October-May.  
Source: NAFED and Department of Food and Public Distribution.

India's government and the Food Corporation of India (FCI) buy far more rice and wheat than needed. For example, rice stocks hit over 536 lakh tonnes in October 2024 which is almost five times the required 102.5 lakh tonnes buffer. They're projected to procure 525-547 lakh tonnes in one year, exceeding National Food Security Act (NFSA) needs. This leads to high storage costs, waste, and strain on government budgets.

The recent controversy over Kuruvai paddy procurement in Tamil Nadu shows bigger problems: delays, mismanagement, and corruption claims. Farmers grow too much paddy chasing guaranteed buys and MSP, ignoring market demand and the need for diverse, sustainable crops.

## Challenges emanating from procurement mess:

- e. **Drop in Per Capita Cereal Consumption:** Cereal production has surged to about 300 million tonnes per year. Yet, per-person cereal intake has steadily fallen over decades. This shift comes from changing tastes, city growth, and more use of other proteins and oils. Rural areas, traditional big cereal eaters, show the sharpest drop.
- f. **Impacts of Overproduction:** This mismatch creates a strange problem: massive cereal surpluses lead to waste, overstocking, and import needs for pulses and edible oils. It burdens government buying and storage systems, raising doubts about current farm policies.
- g. **High Imports of Edible Oils and Pulses:** India is a major farming nation but imports nearly half its edible oil needs. Import costs topped 30,000 crore in 2023-24. Oilseed output hasn't kept pace with growing farmland, failing self-sufficiency goals. Demand-supply gaps also force heavy pulse imports, key for protein security.
- h. **Barriers to Crop Diversification:** Shifting from cereals faces hurdles like poor extension services,
- i. no reliable price support for non-cereals, and patchy, state-level procurement. This discourages farmers from adopting eco-friendly systems that better match nutrition and market needs.

## Paddy procurement Data:

- Paddy procurement nationwide surged to 119.86 lakh tonnes (rice equivalent) by Oct 31, 2025 which is 45% higher than last year's 82.08 lakh tonnes.
- Central pool rice stocks hit 356.1 lakh tonnes (Oct 2025) vs. the 102.5 lakh tonne norm, consistently double the requirement over three years.
- Annual rice procurement (525-547 lakh tonnes, Apr 2022-Mar 2025) outpaces PDS offtake (392-427 lakh tonnes), creating surplus while wheat stocks also exceed norms.
- Wheat PDS use outstripped procurement in two of the last three years (except 2024-25), despite ₹2 lakh crore annual food subsidies. Meanwhile, India imports pulses and oilseeds amid rice surpluses despite being the world's top pulse producer (25.24 mn tonnes in 2024-25).

## Way ahead:

- a. **Reforming Procurement Systems:** Current procurement rules for cereals, pulses, and oilseeds ignore regional climate and local needs. Shift to crop-specific strategies and boost Farmer-Producer Organizations (FPOs) to help farmers reach markets and cut leakages.
- b. **Boosting Crop Diversification:** Strengthen extension services, offer guaranteed MSP for non-cereal crops, and create region-specific policies. This will encourage diverse farming, stabilize farmer incomes, cut import reliance, and enhance nutrition security.
- c. **Tackling Logistics and Corruption:** Address delays, corruption, and gaps—like in Tamil Nadu—through timely procurement, less waste, and better farmer trust in alternatives. Prioritize improved storage and monitoring.

India's cereal crisis stems not from shortages but poor management: rice-wheat surpluses alongside deficits in pulses and edible oils, shifting consumption patterns, and weak diversification incentives. Solutions demand revamped procurement policies, stronger FPOs, better extension services, and aligning crops with nutritional needs. These reforms will boost food security, ease fiscal burdens, and promote sustainable farming.

## 8. Need to change how cities are governed in India

**Context:** India's urban governance needs urgent reform to handle rapid city growth and improve services

### Why in News?

**The rise of Zohran Mamdani as the Mayor of New York City in the United States has brought focus to the lack of visibility of similarly elected civic officials in Indian cities.** This moment is significant because it exposes a deeper structural failure that Indian cities lack empowered, democratically elected urban leadership. Despite rapid urbanisation, cities continue to be governed through State-controlled mechanisms, with weak municipal autonomy.

This debate has sparked in the backdrop of the Brihanmumbai Municipal Corporation (BMC), the governing civic body of Mumbai going for elections in 2026 after several years. In Telangana, 27 municipalities are being merged into the Greater Hyderabad Municipal Corporation (GHMC). The Bruhat Bengaluru Mahanagara Palike has been divided into five corporations. To make governance better for urban cities.

### Need for reforms in Governance:

- a. **Mayors Lack Real Authority:** Mayors in major Indian cities hold little power, with key decisions controlled by Chief Ministers' offices. This leaves local leaders unable to address urban challenges effectively.
- b. **Overlapping Roles of MLAs and MPs:** Legislators and parliamentarians serve as ex-officio municipal members, dominating corporators and mayors. Party hierarchies keep local reps subordinate, blocking independent action.
- c. **Neglect of Urban Priorities:** India's governance long viewed the nation as rural-focused, side-lining cities despite their ancient municipal roots. Powers haven't grown to match rapid urbanization demands.
- d. **74th Amendment's Unfulfilled Promise:** The 73rd and 74th Constitutional Amendments aimed to empower urban bodies but instead weakened them amid political rivalries and absent public push.
- e. **Low Civic Engagement:** Public indifference enables delays like Bengaluru's multi-year election gaps without protest. Without citizen demand, reforms stall as politicians see no gain.
- f. **State Agencies Dominate Services:** Parastatals and state bodies control vital functions like water and planning, starving municipalities of roles and revenue. This side-lines elected local leaders.

- g. **Boundary Manipulations Delay Elections:** Frequent city corporation mergers or splits serve to postpone polls, undermining stable governance and accountability.

## Reforms needed:

- a. **Restructuring City Boundaries:** States have reorganized municipal bodies, like splitting Bengaluru into five corporations and merging Telangana towns into GHMC. These moves often prioritize politics over real governance improvements.
- b. **74th Amendment's Role:** The 74th Amendment gave cities constitutional status to strengthen local governments and boost their powers.
- c. **Financial Powers to Wards:** Cities like Hyderabad and Mumbai once shifted funds to ward offices for faster decisions and accountability. These efforts proved decentralization works but faded over time.
- d. **Expanding City Limits:** States periodically redraw municipal boundaries to match population growth and admin needs, though results vary.

## Way forward:

- a. **Generate Citizen Demand:** Urban governance improves only through public pressure for empowered municipal bodies. Citizens must view local governments as true authorities, not subordinates. Politicians respond to vocal civic demands.
- b. **Decentralize State Control:** Mayors can't act freely when Chief Ministers' offices dictate budgets, agencies, and decisions. Reducing this top-down grip allows local leaders to tackle city issues independently.
- c. **Define Clear Roles:** Overlaps plague services like water, transport, waste, and planning across multiple agencies. Assign distinct responsibilities with accountable leaders to eliminate confusion and gaps.
- d. **Boost Local Funding:** Cities require steady, direct funds to ward levels for priority-based spending. Financial independence underpins all decentralization efforts.
- e. **Curb Bureaucratic Overreach:** Officers often overshadow elected officials, controlling services without local input. Limiting their dominance makes mayors effective and decisions citizen-focused.
- f. **Tailor Reforms to Cities:** Each city has distinct political, admin, and spatial hurdles. Flexible, context-specific changes ensure relevant governance upgrades.

India's urban governance fails due to weak mayors, state overreach, and fragmented roles, despite reform attempts like the 74th Amendment. The need of the hour is empowered local bodies with clear duties, direct funds, and curbed bureaucracy, tailored to each city's needs. These changes will unlock efficient, accountable cities for rapid urbanization.

## 9. Evolution of Pension Reforms in India

**Context:** India's rapidly ageing population is posing a pivotal pension challenge. Over 153 million Indians are above the age of 60, this is projected to double to 347 million by 2050. While a few have gained from rise in formal sector retirement, more than 88% of the senior citizens, this has added to the challenge of India's pension system.

**Little support** | The National Social Assistance Programme is applicable to elders, widows and the physically challenged. **Here is a low-down:**



**Pension:** ₹200-₹500 a month for senior citizens BPL households

**Widow Pension Scheme:** ₹300-₹500 a month for widows aged over 40 in BPL households

**Disability pension:** ₹300 per month for persons aged 18-79 with severe or multiple disabilities in BPL households

**Family benefit:** ₹20,000 upon the death of a breadwinner aged 18-59 in BPL households

**Annapurna Scheme:** 10kg of food grains per month for senior citizens who are not receiving any pension



### Evolution of pension reforms in India:

- **Welfare-Based Social Assistance**

The 1995 Indira Gandhi National Old Age Pension Scheme (IGNOAPS) gave regular income to those over 65 below the poverty line. It expanded as the first national support for unorganized sector elderly. The Old Pension Scheme (OPS) provided defined benefits to government workers but proved fiscally unsustainable.

- **Contributory and Inclusion Models**

Launched in 2004, the New Pension Scheme (NPS) replaced OPS with market-linked contributions for formal sector employees. Corporate NPS extended voluntary accounts to private workers. The 2015-16 Atal Pension Yojana (APY) targeted informal workers with flexible payments, guaranteeing minimum pensions despite market shortfalls.

- **Modern Pension Upgrades**

NPS 2.0 enables up to 100% equity investment and flexible frameworks for risk-tolerant savers. New Labour Codes standardize wages—basic pay at least 50% of total—to boost pension and gratuity contributions, securing workers' futures.

### Challenges for Informal Workers

- The e-SHRAM portal builds a national database for informal workers, linking them to pensions and social security. Yet, 42% of those over 55 don't know NPS eligibility, per India's Longitudinal Ageing Survey. Digital gaps hit hard—63% of elderly can't use the internet, while Aadhaar-mobile-bank requirements exclude the vulnerable.

### Progressive Reform Journey

Pension evolution moves from welfare handouts like IGNOAPS and OPS to savings-focused NPS and APY for broader inclusion. Latest steps like e-SHRAM and NPS 2.0 create data-driven systems that pull informal workers into formal finance.

## Challenges in India's Pension framework:

- a. **Low Coverage:** Only 12% of workers have formal pensions, leaving 85%+ informal laborers unprotected. Government and organized sectors get better benefits than private or unorganized workers.
- b. **Awareness and Uptake Issues:** 42% over age 55 don't understand NPS eligibility; financial literacy lags, with families favoring gold over pensions. Digital divides exclude 63% of elderly from online registration.
- c. **Inadequate Benefits:** Pensions often fail inflation tests, sparking disputes over low amounts and delays. Schemes like APY cover just 5% of population despite growth.
- d. **Fiscal and Sustainability Risks:** OPS burdens budgets; NPS market risks worry subscribers. Informal workers' exclusion heightens elderly poverty as life expectancy rises

## Way forward:

- a. **Boost Coverage and Awareness:** Expand e-SHRAM registration drives and simplify Aadhaar-linked processes to include informal workers. Launch targeted campaigns using local languages and community leaders to raise NPS/APY awareness, closing the 42% knowledge gap among elderly.
- b. **Enhance Portability and Flexibility:** Unify NPS across sectors with guaranteed minimum returns and inflation indexing. Promote hybrid OPS-NPS models for government workers while offering low-income groups subsidized contributions.
- c. **Strengthen Financial Inclusion:** Reduce digital barriers through assisted enrollment camps and offline options. Partner with post offices and banks for doorstep services, tackling the 63% elderly internet exclusion.
- d. **Ensure Fiscal Sustainability:** Cap OPS liabilities via phased NPS adoption and build a dedicated pension fund. Tie reforms to labor codes for uniform wage-based contributions, balancing equity and long-term viability.

India's pension system has shifted from welfare handouts to contributory, inclusive models. Despite low awareness and digital barriers, reforms lay groundwork for elderly security. Success demands broad education, digital aid, and strong last-mile delivery for universal coverage.

## 10. Generative AI and Copyright Conundrum

**Context:** In India, where AI adoption is surging amid a booming tech sector, these issues intersect with the state's role in fostering balanced growth through tools like rate regulation and compulsory licensing. Against this backdrop, a committee led by the Department for Promotion of Industry and Internal Trade (DPIIT) has released a working paper advocating a statutory licensing framework to harmonize AI advancement with robust copyright safeguards.

### One Nation, One License One Payment:

India is crafting a policy outline on how architects of artificial intelligence (AI) can use copyrighted material.

- Companies building commercial AI models must pay a fee to the source of copyrighted content, a government committee recommended.
- The DPIIT panel proposes a mandatory licensing system for AI developers. They get compulsory access to all lawfully obtained copyrighted content for training models—no need for individual creator permissions.
- Developers must pay royalties via a single government-approved collecting body run by rights holders.
- The entity will function as a centralized body for licensing and royalty distribution under the compulsory blanket licensing models.
- The proposal also suggested that companies may be charged fees retroactively, and the fee itself would be a percentage of the revenue that a company generates through the said AI model.
- The new model would lower compliance costs for AI startups, reduce litigation risk, and create a level playing field between large and small players. It would also open a steady revenue stream for creators, including from India's vast informal creative sector.

## Need for new policy?

- India requires a distinct regulatory structure that actively encourages AI innovation while ensuring creators are fairly compensated when their works are used to train AI systems.
- "one nation, one license, one payment" hybrid model, aims to fuel India's ambitious ₹10,300 crore IndiaAI Mission while ensuring creators are compensated.
- Today's AI handles billions of data pieces in messy, random ways that blend them all together.
- This makes it impossible to track exactly which copyrighted book, song, or picture added what to the AI.
- Requiring AI makers to identify, list, or redo each work's role afterward is not technically possible.
- Such detailed rules would burden small start-ups and medium companies with huge costs.
- It would slow research and weaken India's position in global AI competition

## Rejection of Voluntary licensing:

The committee rejects one-on-one licensing deals between AI companies and content owners, like the OpenAI-Associated Press agreement due to following factors:

- a. High transaction costs: Negotiating each deal separately is too expensive and time-consuming for everyone involved.
- b. Unequal bargaining power: Big AI firms hold more leverage, allowing them to dictate unfair terms to smaller players.
- c. Marginalizes small creators and startups: Little authors, artists, and new companies get left out, unable to negotiate access or fair pay.
- d. Favors big tech and big publishers only: Voluntary deals mainly benefit giant corporations on both sides, ignoring smaller stakeholders.

## CRCAT

YOUR ZEAL • OUR EXPERTISE

- A new umbrella non-profit body (Copyright Royalties Collective for AI Training [CRCAT]) to be established under the Copyright Act, 1957.
- Functions of the body include collecting royalties from AI companies, distributing proceeds among copyright holders, etc.
- Membership: Only organizations (not individuals), one member per class of work.
- Coverage can expand gradually to unorganized sectors.

India is at a key point where AI progress and creators' rights need to grow side by side. The "One Nation, One License, One Payment" idea offers a fair way to support innovation while protecting creators. If put into place, it could help India lead the world by creating an AI system based on fairness, respect for culture, and strong technology.

## International Relations

### 11. India-Russia

**Context:** The India-Russia Annual Summit held in New Delhi on December 4-5, 2025.



India-Russia relations play a vital role in India's strategic independence, especially for its reliance on Russian arms and cheap oil imports, now strained by new US tariffs.

#### India-Russia in a glance:

- Russian President Vladimir Putin's visit to India serves as a significant reaffirmation of a longstanding friendship that has endured through decades of global turbulence. Although the Ukraine conflict has challenged India's delicate diplomatic balancing act, it has also underscored New Delhi's steadfast commitment to strategic autonomy and the preservation of time-honored partnerships.
- Russia is a key partner for India in defense and energy, with both sides valuing their ties. The real challenge is updating the partnership to fit today's world, where India works with both Russia and the West. With goodwill and practicality, they can handle issues and keep their strong alliance beneficial for both.

Year/Period	Key Event/Milestone
1947	Formal diplomatic ties established post-India's independence.
1950s-1960s	Soviet military aid during 1962 Sino-Indian War strengthens defense bonds.
1971	Indo-Soviet Treaty of Peace, Friendship, and Cooperation signed amid Bangladesh War.
1991	India recognizes Russian Federation after Soviet dissolution.

Year/Period	Key Event/Milestone
1993	New Treaty of Friendship and Cooperation for post-Cold War era.
2000	Strategic Partnership declared during Putin's visit.
2010	Upgraded to "Special and Privileged Strategic Partnership" covering energy and space.
2021-2025	High-level visits, S-400 deals, oil imports, and BRICS focus despite Ukraine tensions.

## Key areas of significance:

- a. **Defence relations:** India's defense ties with Russia have evolved from simple purchases to joint production under "Make in India," emphasizing tech transfers for strategic autonomy and supply chain resilience. This shift reduces sanction risks and ensures maintenance of Russian-origin equipment. Key examples include the 2025 RD-191M engine tech transfer and ongoing \$5.43 billion S-400 deliveries.
- b. **Energy Security:** India buys Russian oil to protect its economy from high global prices, making Russia a main energy partner despite world politics issues. This grows into big investments in Russia's Far East for oil shares and coal for India's steel needs. Russia was India's top oil seller in 2024-25, with trade hitting a record \$68.7 billion that year.
- c. **Connectivity:** India and Russia opened the Chennai-Vladivostok sea path (CVMC) to skip Suez risks, save money, and link energy straight. Started Nov 2024, it drops trip time from 40 to 24 days (40% faster) on a 5,600-mile route vs. Europe. Speeds up trade and ties India to Arctic-Pacific resources.
- d. **Nuclear Energy:** India-Russia nuclear ties are key for clean power and India's net-zero aims. Russia builds big reactors in India without Western limits—it's the only country doing so now. Recently, Russia's nuclear firm sent fuel for the third Kudankulam reactor in Tamil Nadu.
- e. **Space cooperation:** India and Russia work together on space projects like crewed flights and powerful engines for India's Gaganyaan mission. Russia shares special semi-cryo engines that others don't give. Gaganyaan space travelers trained at Russia's Yuri Gagarin Center.
- f. **Agricultural support:** Russia is India's main fertilizer supplier, shielding farms from world price spikes and ensuring food security for 1.4 billion.
- g. **Trade:** India and Russia pay in rupees and rubles to avoid sanctions and grow trade. Russia invests extra rupees in India's infrastructure and bonds to balance things. They aim for \$100 billion trade by 2030 using these payments.

## Challenges:

- a. **Defense Delays:** Ukraine war disrupts Russian arms deliveries, delaying S-400 regiments to 2026 and \$3B Akula submarine lease to 2028. This creates gaps in India's readiness against China.
- b. **Trade Imbalance:** FY25: India exported \$4.88B to Russia but imported \$63.84B. Russia favours Chinese goods, limiting Indian pharma/manufacturing access.
- c. **Strategic Divergences:** Russia's China ties (\$244.8B trade in 2024) make it Beijing's "junior partner," risking neutrality in India-China conflicts.
- d. **Payment Crisis:** Sanctions trap \$1B monthly in rupees for Russia, stalling defence/energy deals as exporters avoid volatile currency.

- e. **Energy Discount Erosion:** India saved \$12.6B on cheap Russian oil over 3 years, but 2024-25 discounts fell to \$2.3/barrel, raising diplomatic costs.
- f. **Indian Recruits Issue:** 44 Indians still in Russian army (Nov 2025) despite release promises, causing outrage and diplomatic strain.

## Way Forward:

- a. **Boost Defence Ties:** Shift to joint production and tech transfers under "Make in India," like BrahMos expansions and Su-57/S-400 talks, to cut delays. Diversify suppliers while extending military pacts to 2031.
- b. **Balance Trade Flows:** Push exports in pharma, agri, textiles via EAEU FTA and remove barriers; reinvest Russian rupees in Indian infra. Target \$100B bilateral trade by 2030 through Programme 2030.
- c. **Fix Payment Systems:** Refine rupee-ruble mechanisms and alternative channels to settle dues, avoiding sanctions traps. Russia devises rupee asset use for balance.
- d. **Expand Energy & Resources:** Sustain discounted oil/fertilizers, invest in Russian Far East for equity oil/coal; explore Arctic routes. Discounts shrank but savings hit \$12.6B [prior context].
- e. **Deepen High-Tech Synergy:** Advance nuclear (Kudankulam fuel), space (Gaganyaan training), fertilizers; add RELOS logistics pact.
- f. **Resolve People Issues:** Demand full release of Indian recruits (44 pending Nov 2025); curb Pakistan arms sales diplomatically [prior context].
- g. **Enhance Connectivity:** Operationalize INSTC, Chennai-Vladivostok, Northern Sea Route for faster trade.

## INDIA AND RUSSIA'S GROWING TRADE RELATIONSHIP



India-Russia ties remain resilient despite US "double tariffs" (50% on Indian exports, with threats of 500% hikes) imposed since August 2025 over India's Russian oil buys. New Delhi prioritizes energy security, defying pressure through diversified payments and boosted non-oil exports like pharma and agri. Amid US tariff pressures over Russian oil, India balances by boosting non-oil exports and rupee deals targeting \$100B trade by 2030. Strategic trust endures, positioning Russia as a vital counterweight while India diversifies for resilience.

## 12. India-New Zealand

**In News:** India and New Zealand concluded the third round of Free Trade Agreement (FTA) negotiations, reaffirming their shared commitment to strengthen trade and investment linkages.

The accord was made under a wider policy to diversify trade relationships and gain privileged market exposure. The accord aims at abrogating or removing hindrances to trade by way of tariff, thus leading to

the efficient process of exchange of goods and services between the two states.

## Trade with the Kiwis

Bilateral merchandise trade (FY25): \$1.3 bn



**Key exports:** ATF, textiles, pharmaceuticals, machinery, petroleum products

**Key imports:** Wood, steel and aluminium scrap, coking coal, turbojets, and agri/animal products (shorn wool, milk albumin, apples, kiwifruit)



### Services trade (2024):

Exports: \$634 mn  
Imports: \$611 mn

### What's in FTA

- NZ's average applied tariff (2.2% in 2025) to fall to zero after implementation
- India offers market access on 70.03% of tariff lines, covering 95% of NZ's exports by value; 29.97% tariff lines excluded
- The big gainers in India:** Textiles and apparel, leather and headgear, ceramics, carpets, automobiles and auto components
- Apples, kiwifruit and manuka honey from NZ subject to TRQ, MIP and seasonal limits, balancing consumer choice with farmer protection
- Exclusions mainly include dairy, most animal products, select vegetables & pulses, sugar, artificial honey, fats & oils, arms & ammunition, gems & jewellery, and copper

“CONCLUDED IN JUST NINE MONTHS, THIS HISTORIC MILESTONE REFLECTS A STRONG POLITICAL WILL AND SHARED AMBITION TO DEEPEN ECONOMIC TIES BETWEEN OUR TWO COUNTRIES”



Narendra Modi, Prime Minister, India

“INDIA IS THE WORLD'S MOST POPULOUS COUNTRY AND FASTEST-GROWING ECONOMY, AND THAT CREATES OPPORTUNITIES FOR JOBS FOR KIWIS, EXPORTS, AND GROWTH”



Christopher Luxon, Prime Minister, New Zealand

### Mobility provisions

- Minimum 20 hours/week work permitted for students in NZ
- Extended post-study work visas for STEM graduates
- 5,000 professional visas in IT, engineering, health care, AYUSH, yoga, music and Indian cuisine for up to 3 years
- 1,000 working holiday visas, granting multiple entries in 12 months

The FTA is expected to be signed in 2-3 months after legal scrubbing, and to come into force within six to seven months. New Zealand will need parliamentary approval.



**Key components focus on tariff cuts, investment pledges, services access, and mobility while safeguarding India's sensitive agriculture. The deal aims to double bilateral trade to \$5 billion in five**

- The India-New Zealand FTA was concluded in December 2025 after nine months of negotiations, making it the fastest finalized trade agreement by India.
- It is the political goodwill of both governments that the agreement shows the need to strengthen the economic interrelations and diversify trading alliances.
- Based on the accord, New Zealand will put an end to customs duty on 100 percent of the exports of India, which will therefore provide the Indian manufacturers with unprecedented access to the market

### Core components of the FTA:

- Tariff Liberalization:** India gains zero-duty access for 100% of exports to New Zealand. New Zealand secures duty elimination or reductions on 95% of its exports to India (57% immediate, rising to 82%), excluding India's dairy, onions, rice, wheat, sugar, spices, and oils.
- Investment Commitment:** New Zealand pledges \$20 billion in FDI to India over 15 years, boosting sectors like infrastructure and manufacturing.
- Services and Mobility:** Enhanced access for Indian professionals in IT, healthcare, engineering, and education; up to 1,667 skilled work visas annually plus 1,000 working holiday visas for Indians. Includes mutual organic certification and MSME cooperation.
- Intellectual property protection:** Include protections for intellectual property rights, safeguarding patents, trademarks, and copyrights.
- Other Provisions:** Streamlined customs, regulatory alignment, and cooperation in health, defence, education, and innovation.

## What is Excluded?

India protected several sensitive sectors from concessions in the India-New Zealand FTA finalized in December 2025, ensuring no tariff cuts or market access on key agricultural items to shield domestic farmers and industries. Nearly 30% of India's tariff lines remain excluded.

- Dairy products (completely protected, no concessions).
- Certain animal products.
- Vegetables like onions

## Additional Protected Items

Almonds, Sugar, Spices, Edible oils, Rubber, Rice, Wheat, Soya. These safeguards use exclusions, tariff-rate quotas (TRQs), or seasonal access for items like apples, kiwifruit, and wine to balance liberalization.

## India, New Zealand wind up FTA talks, set to boost trade

New Delhi hopes to enjoy tariff-free access to Wellington's markets; island nation promises 5,000 work visas every year; Prime Minister Modi hails 'historic milestone' reflecting 'shared ambition'

The Hindu Bureau  
NEW DELHI

India and New Zealand on Monday concluded discussions on a free trade agreement (FTA) that will give India tariff-free access to the island nation's markets, bring in \$20 billion in investments over 15 years, and help double bilateral trade to \$5 billion in the next five years.

The deal will remove or cut tariffs on 95% of New Zealand's exports – from timber to fruits – to India, but New Delhi safeguarded the interests of its farmers and dairy farmers, considered politically sensitive, and made no concessions on import of dairy, onions, sugar, spices, edible oils, and rubber.

New Zealand will give temporary employment visas for Indian professionals

### Easing access

The proposed deal will give duty-free access to a range of domestic goods and includes an FDI commitment of \$20 billion over 15 years

#### New Zealand to get

- Duty-free access to goods such as sheep meat, wool, coal and over 95% of forestry and wood articles
- Duty concessions on items such as kiwi fruit, wine, seafood, cherries, avocados, persimmons, bulk infant formula, Manuka honey, and milk albumins
- No concessions in dairy sector

Indian professionals in skilled occupations to get temporary employment entry visa pathway and stay of up to 3 years

in skilled occupations with a quota of 5,000 visas annually and a stay of up to three years under the proposed agreement.

#### 'Protecting interests'

Union Minister for Commerce Piyush Goyal said the government has been

"sensitive in protecting interests" of farmers and dairy persons. "Rice, wheat, dairy, soya and various other agricultural products have not been opened up with any access," he said.

Hailing the FTA, to be signed in the first half of 2026, Prime Minister Na-



Ties on track: Union Minister Piyush Goyal with New Zealand Minister Todd McClay in New Delhi on Monday. PTI

The deal is expected to be signed in the first half of 2026 and aims at doubling bilateral trade to \$5 billion in five years

rendra Modi said, "Concluded in just nine months, this historic milestone reflects a strong political will and shared ambition to deepen economic ties between our two countries."

CONTINUED ON  
» PAGE 10

## Implications of the FTA:

### Strategic Implications

- Export Resilience: Accelerates India's FTA network with developed economies, countering global protectionism and boosting supply chain integration.
- Global Positioning: Elevates India's Pacific trade profile, aligning with diversification goals amid US tariffs and EU barriers.
- Investment Leverage: Secures NZ's \$20B FDI pledge, channelling funds into infrastructure for long-term growth.

### Sectoral Gains (India)

- Labour-Intensive Boost: Textiles, leather, gems, and processed foods secure duty-free access, generating millions of jobs in MSMEs and rural areas.
- Rural Economy Lift: Processed agri-foods empower farmers through premium markets, enhancing incomes and value chains.

### Sectoral Challenges (NZ)

- Dairy Sector Alarm: NZ producers fear Indian competition eroding domestic market share and prices.

- Manufacturing Strain: Local firms protest import surges, demanding safeguards on sensitive lines.

## Challenges:

### Tariff and Access Barriers

- India's exclusions on dairy, rice, wheat, onions, oils, rubber limit NZ agri-exports (30% of its economy).
- Pre-FTA tariffs and quotas stifled growth; NZ dairy remains blocked.

### Non-Tariff Barriers (NTBs)

- Strict NZ standards, certifications, and TBTs hinder Indian textiles, pharma, foods.
- Regulatory opacity and licensing delays exports.

### Political and Domestic Opposition

- NZ dairy/manufacturing protests market flood from Indian goods; coalition (NZ First) calls it "low-quality".
- Immigration fears over Indian visas strain ratification.

### Structural Imbalances

- Asymmetrical trade: NZ agri-dominant exports vs. India's manufacturing/services; deficits risk post-FTA.
- Low business awareness and under-penetration in pharma, machinery.

### Services/Mobility Limits

- Visa hurdles, labour protections curb Indian IT/health pros despite gains.

### Ratification Risks

- NZ domestic politics may delay signing (early 2026); India's MSME safeguards needed.

India-New Zealand FTA marks a strategic win, unlocking duty-free access for India's textiles, leather, gems, and foods while securing \$20B FDI. Sensitive sectors like dairy, rice, onions, and wheat stay protected, balancing farmer interests with export growth. Despite NTBs, political opposition, and ratification risks, the deal doubles trade potential to \$5B, enhancing India's Pacific resilience.

## 13. India-Oman

In News: India and Oman signed a Comprehensive Economic Partnership Agreement (CEPA), marking a major milestone in India's trade diplomacy in the Gulf region.

India and Oman signed a Comprehensive Economic Partnership Agreement (CEPA), marking a major milestone in India's trade diplomacy in the Gulf region.

Prime Minister Narendra Modi was conferred with the Order of Oman by His Majesty Sultan Haitham bin Tarik (Sultan and Prime Minister of Oman) for his exceptional contribution to India-Oman relations.



## Key Features

- Near-Total Duty-Free Access:** Oman cuts tariffs to zero on 98% of India's exports by value, helping textiles, leather, gems, engineering goods, pharma, autos, and agri products create jobs for MSMEs and artisans [ from prior].
- India's Balanced Offer:** India liberalizes 78% of tariff lines (95% of Oman imports) but protects sensitive agri, bullion, jewellery, and metals via exclusions and quotas.
- Services Boost:** Oman opens 127 sectors like IT, health, education, R&D; India gets 100% FDI and easier visas (Mode 4: up to 2 years stay, 50% intra-company transfers).
- AYUSH Milestone:** World's first full commitment to traditional medicine across all supply modes, aiding wellness exports.
- Ease of Trade:** Faster pharma approvals, mutual Halal/organic certification, and standards cooperation cut non-tariff barriers.

India and Oman enjoy strong, historic ties upgraded to a Strategic Partnership in 2008. Oman serves as India's oldest Gulf ally and key voice in GCC, Arab League, and IORA forums.

- Defence & Maritime Links:** Oman was the first Gulf nation for tri-service drills with India: Al Najah (army), Eastern Bridge (air force), Naseem Al Bahr (navy). This bolsters Indian Ocean security.
- Economic Ties:** Bilateral trade hit \$10.6 billion in FY 2024–25. Oman ranks as India's 29th export market, 25th import source; India is Oman's 4th non-oil import origin and 3rd non-oil export destination.
- India's Exports:** Petroleum products, aluminium oxide, rice, machinery, aircraft, electronics, plastics, steel.
- India's Imports:** Crude oil, LNG, fertilizers, ammonia, chemicals, sulphur, iron ore.
- People-to-People Bonds:** A 670,000-strong Indian community, ancient cultural ties, and solid institutions strengthen grassroots relations.

## Hurdles in India-Oman Ties

- Unused Services Strength: Oman buys \$12.5B in global services yearly, but India gets just 5%—missing chances in IT, education, health despite India's edge.

- Trade Gap: Energy rules trade (India exports \$4.1B, imports \$6.6B in FY25), creating \$2.5B deficit and little high-value shift.
- Regional Tensions: West Asia unrest risks energy flows, trade routes, and 670K Indian workers' safety.
- Local Hiring Push: Oman's "Omanisation" policy creates job uncertainty for Indian pros.

## Ways to Build Stronger Bonds

- Grow Services Trade: Use CEPA to push IT, health, education into Oman's big services market.
- Mix Up Exports: Add pharma, machines, agri to cut energy reliance and shrink deficit.
- Boost Investments: Set up Indian factories/logistics in Oman for Gulf-Africa reach, focus on green hydrogen, renewables.
- Team on Seas & Blue Growth: Guard sea routes together; partner on fishing, ocean mining, desalination for climate fixes.

## India-Oman Relations at a Glance

Aspect	Details
Strategic Ties	Partnership since 2008; Oman's oldest Gulf ally for India; key in GCC/Arab League/IORA.
Defence	Tri-service exercises: Al Najah (army), Eastern Bridge (air), Naseem Al Bahr (navy); Indian Ocean security focus.
Trade (FY25)	\$10.6B total; India exports \$4.1B (petroleum, alumina, rice, machinery); imports \$6.5B (crude, LNG, fertilizers); \$2.4B deficit.
CEPA (Dec 2025)	Oman: 98% duty-free Indian exports; India: 78% liberalization with agri safeguards; services (127 sectors), Mode 4 visas (2 yrs.), 100% FDI, AYUSH clause.
People Links	670K Indian diaspora; strong cultural/institutional bonds.
Challenges	Energy-heavy trade; services underused (5% share); Omanisation job risks; West Asia tensions.

India-Oman relations thrive on strategic trust, defense synergy, and the transformative Dec 2025 CEPA, unlocking duty-free exports and services growth despite energy-heavy trade gaps. This partnership secures Gulf energy lanes, empowers MSMEs, and leverages a 670K diaspora for resilience. Moving forward, trade diversification, services expansion, and maritime synergy will solidify Oman's position as India's cornerstone partner in West Asia.

## Health

### 14. FSSAI launches Egg safety drive

**In News:** reports and social media posts alleged the presence of carcinogenic substances such as nitro furan metabolites (AOZ) in eggs.

The Food Safety and Standards Authority of India (FSSAI) on Saturday (December 20, 2025) stated that the eggs available in the country are safe for human consumption and that recent claims linking eggs to cancer risk are misleading, scientifically unsupported and capable of creating unnecessary public alarm.

FSSAI officials clarified that the use of nitrofurans is strictly prohibited at all stages of production of poultry and eggs under the Food Safety and Standards (Contaminants, Toxins and Residues) Regulations, 2011.

#### Nitro furan Metabolites:



Nitro furan metabolites are stable chemical residues left in animal products after banned nitro furan antibiotics break down, posing potential carcinogenic/mutagenic risks.

FSSAI sets an Extraneous Maximum Residue Limit (EMRL) of 1.0  $\mu\text{g}/\text{kg}$  for nitro furan metabolites—a banned antibiotic used in animal feed—to enable reliable lab detection for enforcement only.

- **EMRL Purpose:** Marks the lowest detectable level by advanced tests; nitro furans remain fully prohibited in food production.
- **No Health Risk:** Traces below this limit pose zero safety threat or violation, as confirmed by officials—no cancer link or consumer harm.

FSSAI aligns India's nitro furan ban with EU/US standards, where these antibiotics are prohibited in food animals and used only as enforcement reference points. Numerical differences reflect lab methods, not safety gaps.

- **No Health Link:** No proven connection between trace nitro furan exposure from diet and cancer or health issues, per scientific evidence.

- Egg Safety Confirmed: Normal egg eating poses no cancer risk, as stated by all health authorities.
- Isolated Cases: Specific brand detections are batch-specific (feed contamination), not reflective of India's egg supply.
- Avoid Overgeneralization: Labelling all eggs unsafe based on single lab findings is scientifically wrong.

## 15. India's traditional medicine system

**In News:** 2<sup>nd</sup> WHO Global Summit on Traditional Medicine in New Delhi.

The theme of the summit is “Restoring Balance for People and Planet: The Science and Practice of Well-Being.”

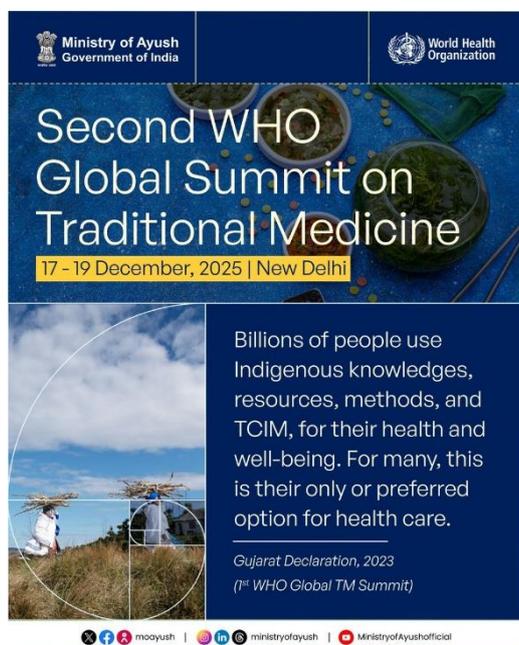
The Summit will offer a platform for India to present its evidence-oriented, system-wide approach to traditional medicine and to advance global collaboration on science, quality and equitable access.

The Summit will also see the launch of the WHO Traditional Medicine Global Library (TMGL). This is the world's most comprehensive digital repository on traditional, complementary and integrative medicine with over 1.5 million records.

### **Traditional Medicine:**

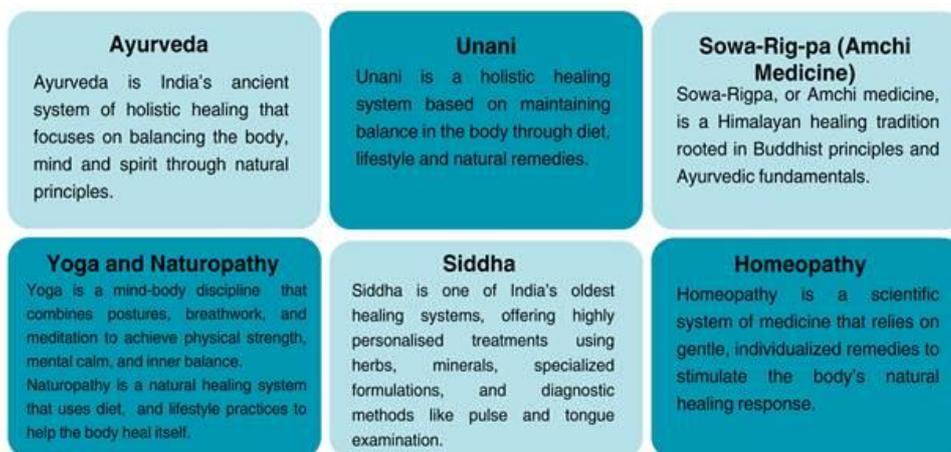
Traditional medicine is one of the world's oldest holistic healing traditions. According to WHO, traditional, complementary and integrative medicine is used in 170 of its 194 Member States.

While countries like India, China and Japan have long established systems of traditional medicines, they are also widespread in Africa and the Americas with many countries recognizing and integrating them into their health systems.



- In India, traditional medicine systems like Ayurveda, Siddha and Unani, hold profound cultural, health, and economic importance and have been deeply embedded in daily life for years.
- They offer holistic, preventive and person-centred approaches to well-being

- Under the Ministry of AYUSH, systems such as Ayurveda, Yoga & Naturopathy, Unani, Siddha, Sowa-Rigpa and Homoeopathy are formally recognised within India's public-health framework and continue to be widely practised through national institutions, service networks and community traditions.



- The World Health Organisation (WHO) acknowledges traditional, complementary and integrative medicine as a significant source of primary health care, valued for its cultural relevance, accessibility and personalised nature.
- With rising interest in scientifically validated traditional practices, the WHO and regional health bodies increasingly view these systems as contributors to health equity, particularly in contexts where affordability and cultural familiarity shape healthcare choices.
- The World Health Organization (WHO) organizes Traditional Medicine Global Summits to promote the evidence-based integration of traditional, complementary, and integrative medicine (TCIM) into global health systems.

**The first summit was held in Gujarat in 2023 in which methodologies for global research agendas were explored.**

- The Ministry of AYUSH anchors India's traditional medicine sector through a comprehensive institutional framework. It regulates education, research, drug quality and service delivery across AYUSH services.
- Its policy design emphasises scientific standards, system strengthening and integration of AYUSH into national healthcare delivery.

## National AYUSH Mission (NAM)

The National AYUSH Mission (NAM), launched in 2014, is the Ministry's flagship Centrally Sponsored Scheme aimed at strengthening AYUSH service delivery across the country. The Mission works with States and UTs to expand infrastructure, upgrade facilities and integrate AYUSH services within the public health system. NAM places special emphasis on co-locating AYUSH units at Primary Health Centres, Community Health Centres and District Hospitals, thereby ensuring wider access to traditional medicine.

## 16. Urban Malaria Threat

**In news:** India's 2025 Malaria Elimination Report warns of rising urban malaria from invasive Anopheles

stephensi mosquitoes, threatening the 2030 elimination goal and 2027 zero indigenous cases target aligned with WHO strategy.

Anopheles stephensi's spread to cities like Delhi shifts malaria from rural to urban areas. It breeds in urban sites (tanks, tires, construction) and spreads P. falciparum and P. vivax efficiently.

## Key Threats

- Urban Vector Shift: Anopheles stephensi breeds in city containers (tanks, tires), spreading P. falciparum/vivax in Delhi-like areas.
- High-Burden Pockets: Odisha, Tripura, Mizoram; cross-border from Myanmar/Bangladesh.
- Transmission Drivers: Asymptomatic cases, remote forests, migration, poor access.

## Progress Achieved

- Cases dropped 80% (11.7L in 2015 to 2.27L in 2024); deaths down 78%.
- Intensified surveillance in tribal/border zones.

## Health System Gaps

- Private sector under-reporting, weak entomology, drug/insecticide resistance, supply shortages.

## Priority Actions

- Enhance surveillance/vector monitoring; fix supply chains.
- Research: Asymptomatic cases, stephensi control, resistance, P. vivax treatment.

## Strategic Frameworks

- NFME 2016: Zero cases by 2027.
- NSP 2023-27: Test-treat-track via IHIP platform.
- IVM Tools: IRS, LLINs, urban stephensi focus.

## Road Ahead

IMEP-3 covers 159 districts; Ayushman integration; 850+ trained pros. India eyes 2030 malaria-free status as global model.

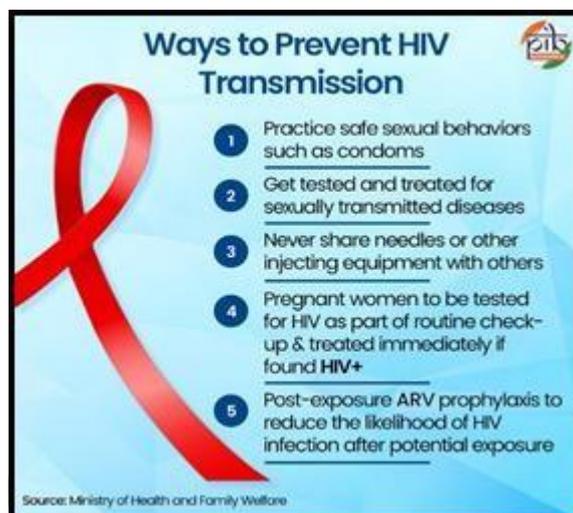
## 17. AIDS and TB fight- Tamil Nadu leads the way

Context: On World AIDS Day 2025, Tamil Nadu's pioneering health strategies stand out for curbing HIV through its AIDS Control Society model and now adapting predictive tech to slash TB deaths.

World AIDS Day 2025 was observed on **December 1, 2025**, with the global theme "**Overcoming disruption, transforming the AIDS response**. Initiated in **1988** by **WHO**, the observance has evolved into a global platform for solidarity, remembrance, and advocacy.

## HIV and AIDS in India

- 1980s Africa: HIV/AIDS devastated populations with no treatment available.
- Early 1990s India: HIV spread across the country, mainly through unsafe sex; in the northeast, drug use and needle sharing were major causes.
- Challenge: No cure, high mortality due to opportunistic infections like TB and diarrhoea



- The Government of India responded quickly and launched the National AIDS Control Project in 1992 with a soft loan of \$84 million from the World Bank.
- Every State government set up an AIDS Cell in the respective medical directorates. But fund flow through the Central and then the State government machinery was very slow.

## Tamil Nadu Model

- The State AIDS Cell was converted into a Registered Society named the Tamil Nadu State AIDS Control Society or TNSACS ([www.tnsacs.in](http://www.tnsacs.in)) under the Societies Registration Act. This facilitated a direct fund flow to TNSACS with a fair degree of autonomy in implementation.
- With no HIV cure or treatment available then, Tamil Nadu launched targeted awareness campaigns for adults, slashing new infections and stabilizing totals in the former hotspot state.
- On witnessing the success of this model, the Government of India and the World Bank mandated the Tamil Nadu model for all the States in the Second National AIDS Control Project (1997-2002).
- Thereafter, every State converted its AIDS cell into an AIDS Control Society and launched vigorous awareness campaigns. As a result, India's adult HIV prevalence rate came down from a peak of 0.54% in the year 2000 to a low of 0.22% now.

India hosts 25% of the world's TB cases (out of 36 million globally) versus just 7.5% of HIV cases (out of 40 million), per WHO's 2025 Global TB Report. TB acts as the leading opportunistic infection in HIV patients, causing 25% of AIDS deaths in India. The country also carries 25% of global multidrug-resistant TB (MDR-TB), amplifying dual epidemic challenges.

Disease	India's Share	Global	Total Cases	Global	India-Specific Issue
TB	25%		36 million		Top HIV co-infection; 25% MDR-TB burden
HIV	7.5%		40 million		TB drives 25% of AIDS deaths

India aims to eliminate TB by 2025 (ahead of global 2030 target), with faster case decline rates than worldwide average, prioritizing testing amid HIV-TB co-infections and MDR-TB.

**State Burden: UP, Maharashtra, MP, Bihar, Rajasthan hold 56% of 2024 cases.**

National Drive: Ministry of Health and Family Welfare prioritizes testing/reporting; PMTBMB (PMTBMB: Pradhan Mantri TB Mukta Bharat Abhiyaan (Prime Minister's TB-Free India Campaign) funds treatment via communities/CSR.

**Tamil Nadu Innovation:** ICMR-NIE software predicts death risks at diagnosis, integrated state-wide for screening, reporting, treatment, nutrition—partnered with National Health Mission and TB Office.

Tamil Nadu's proven TNSACS model for HIV success, now powering ICMR-NIE's predictive TB tools, lights the path for India's 2025 TB-free goal. With accelerating case declines, nationwide testing drives, and scalable state innovations, India stands poised to surpass global benchmarks and deliver a healthier future for all.

## 18. Charting an Agenda on the Right to Health

Context: India's public health landscape faces persistent challenges, including unequal access to care, the commercialization of healthcare, and vulnerabilities exposed by crises like COVID-19. Amid global observances of Human Rights Day (December 10) and Universal Health Coverage Day (December 12), the National Convention on Health Rights convened in New Delhi on December 11-12, 2025 emerges as a pivotal national gathering.

### National Convention on Health Rights:

Organized by Jan Swarthy Abhiyan (People's Health Movement – India) it is a coalition of diverse networks and civil society organizations from over 20 states, this event unites around 400 health professionals, community leaders, and activists to dissect these issues, draw lessons from the pandemic, bolster right-to-health initiatives, and advocate alternatives to profit-driven healthcare models.

## Charting an agenda on the right to health

Timed between Human Rights Day (December 10) and Universal Health Coverage Day (December 12), a significant national gathering on public health is being convened in New Delhi. The National Convention on Health Rights (December 11-12, 2025), will offer a unique platform for around 400 health professionals, community leaders and health activists to address India's major health challenges, while charting an agenda on the right to health. Organised by Jan Swasthya Abhiyan (People's Health Movement - India) which comprises diverse networks and civil society organisations from over 20 States, the convention will draw lessons from the COVID-19 crisis, while strengthening right to health initiatives and presenting alternatives to the commercialisation of health care.

### Challenging privatisation

A major issue is the push for privatisation of public health services. Expansion of public-private partnerships is leading to medical colleges and health facilities being handed over to private players across India. This threatens to dismantle already weakened public services, while making health care unaffordable for crores of Indians who rely on public health-care provisioning. Leaders from movements against privatisation in Andhra Pradesh, Karnataka, Mumbai, Madhya Pradesh and tribal districts of Gujarat will share insights and strategies, while critiquing the impacts of privatisation on health systems.

Commercial private health care in India has rapidly expanded, fuelled by domestic and foreign investments and pro-corporate policies. But this boom has not been matched by necessary regulation. Much after the Clinical Establishments (Registration and Regulation) Act was enacted in 2010, its implementation remains nominal. The consequences for patients include frequent overcharging and unnecessary medical procedures such as caesarean sections, opaque



**Dr. Abhay Shukla**  
is a public health physician and national co-convenor of the Jan Swasthya Abhiyan

The National Convention on Health Rights will offer a platform to address India's major health challenges

pricing and violations of patient rights. The convention will advocate for effective implementation of regulatory frameworks including rate standardisation, transparent pricing, mandatory observance of the Charter of Patient's Rights, and accessible grievance redress systems.

India has among the lowest financial allocations for public health globally, with just 2% of the Union Budget allocated for health services, and annual per capita public spending at only \$25. Out-of-pocket expenses remain high, despite disproportionate attention to government-supported health insurance schemes. At the convention, participants will examine the gap between claims and ground realities of these schemes and explore alternative financing frameworks centred on enhanced government spending, reduced out-of-pocket costs, and equitable access.

### Justice for health workers

The COVID-19 pandemic underscored the indispensable roles of frontline doctors, nurses, paramedics and support staff. Yet, many still face low wages, insecure employment, and inadequate social security and working conditions. During this convention, health worker associations will highlight the need for justice to health workers and resilient health systems.

Medicines constitute up to half of a household's medical spending, yet more than 80% of medicines in India remain outside price control. Irrational drug combinations, unethical marketing and high retail markups persist. The convention's session on access to medicines will examine regulatory gaps, pricing barriers, proposed removal of GST on medicines, and expanding public sector production of essential medicines.

The convention is to advocate for public health systems that are capable of delivering universal, quality services. With over 80 crore people in

India dependent on public provisioning, strong public health services remain essential. Participants will highlight community-led models and successful state-level initiatives for revitalising public systems, with decentralised planning and community engagement. The vision is to affirm health care as a fundamental right anchored in robust, responsive public systems.

### Eliminating discrimination

Entrenched social hierarchies continue to influence access to health care. A special session on gender and social justice will foreground the experiences of Dalits, Adivasis, Muslims, LGBTQ+ persons, and persons with disabilities and others towards embedding inclusion and non-discrimination in health systems. The convention also links health to broader determinants, with a session covering food security, environmental pollution and climate change, which would explore intersectoral strategies for health.

The convention has been timed during the winter session of Parliament, and dialogue will be held between delegates and Members of Parliament to highlight pressing health policy issues.

This year marks the 25th anniversary of Jan Swasthya Abhiyan (JSA). During this time, the JSA has worked across over 20 States with women's organisations, science groups, rural movements, patient groups and civil society networks to advance diverse health rights and pro-people policies. The convention will celebrate this legacy, renewing long-standing alliances, and strategising for the future. The National Convention on Health Rights is a call to action for everyone in India who believes that health must be a basic human right. Lessons from past campaigns will meet the energies of the present, shaping a popular narrative and demands for policies to ensure the right to health for all in the decade ahead. The overarching message remains clear: health care for people, not for profits.

Excellence Achievement

## Privatization and health care

- Push for privatization:** Public-private partnerships are handing over medical colleges and health facilities to private companies across India. This endangers weak public services and makes healthcare unaffordable for millions who depend on them.
- Unregulated expansion of privatization:** India's private healthcare has boomed via investments and pro-corporate policies, but lags in regulation, despite the 2010 Clinical Establishments Act's weak enforcement. Patients suffer overcharging, unnecessary procedures (e.g., caesareans), opaque pricing, Patient Rights Charter compliance, and accessible grievances.
- Poor work conditions of frontline workers:** The COVID-19 crisis showed the importance of frontline doctors, nurses, paramedics, and support staff are. Yet many still get low pay, unstable jobs, poor social security, and bad working conditions. At the convention, health worker groups will push for fairness for workers and stronger health systems.
- Access to affordable medicines:** Medicines take up to half of family medical costs, but over 80% in India aren't price-controlled. Problems like useless drug mixes, shady marketing, and high shop mark-ups continue. The convention session will look at weak rules, price hurdles, removing GST on medicines, and boosting government production of essential drugs.
- Universal, high-quality public health services:** With over 80 crore Indians reliant on public provisioning, fortifying these systems is imperative. Participants will spotlight community-driven models and efficacious state-level initiatives that invigorate public infrastructure via decentralized planning and participatory engagement. Ultimately, it envisions healthcare as an inviolable right, underpinned by resilient and accountable public frameworks.
- End discrimination:** Social hierarchies still block healthcare access; a dedicated session on gender and social justice amplifies voices of Dalits, Adivasis, Muslims, LGBTQ+ individuals, persons with disabilities, and others to foster inclusive, non-discriminatory systems.

## A Rights-Based Alternative

The National Convention on Health Rights presents a unified vision countering market-driven healthcare, embedding access, affordability, and equity in a robust public, rights-centered framework. It reaffirms that health systems must prioritize people over profits, paving the way for transformative, equitable change.



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## Environment and Ecology

### 19. Climate is breaching the wall of Urban Metrics

Context: Extreme weather events across South/Southeast expose vulnerabilities in megacities like Delhi, Jakarta, and Colombo. Fuelled by climate change, deforestation, and urbanization, these events—worsened by lost wetlands and poor planning—highlight strains from flooding and heat islands.

#### Issue:

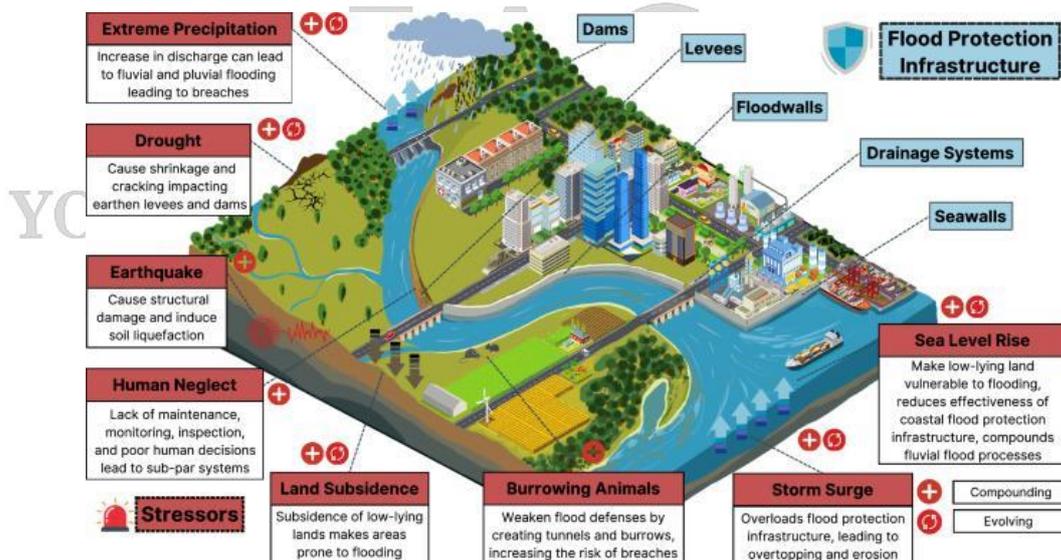
The most modern cities of India, though modern in general parlance lacks security during floods and cyclone. This gap, starkly evident in recent floods ravaging Sri Lanka, Indonesia, Thailand, and the Philippines, exposes flaws in defining "modern" urban life through GDP and liveability scores alone, ignoring resilience to climate extremes.

#### Approaches to urban welfare and their shortcomings:

- **UN-Habitat City Prosperity Index:** Integrates productivity, infrastructure, quality of life, equity, environmental sustainability, and urban governance for a holistic urban performance snapshot.
- **Global Liveability Index:** Assesses cities on stability, healthcare, culture/environment, education, and infrastructure via 30+ indicators rated from acceptable to intolerable (1-100 score).
- **City Resilience Index:** Measures shock recovery (e.g., extreme weather) across health/well-being, economy/society, infrastructure/environment, and leadership/strategy.

#### Asia Floods 2025: Key Impacts

- Sri Lanka: Cyclone Ditwah caused intense rains, floods, and landslides; >400 deaths, tens of thousands displaced in Colombo and rural areas.
- Indonesia: Cyclonic storms triggered floods/landslides on Sumatra; hundreds killed, villages destroyed in river valleys and steep slopes.
- Thailand: Southern regions including Hat Yai saw century-level rainfall; floods several meters deep; leaders admitted warning system failures.
- Philippines: Typhoon Kalmaegi flooded Visayas (Cebu); dozens dead, lakhs displaced



## Shortcomings of liveability indices:

- a. **Blind Spot in Urban Indices:** Secondary cities like Hat Yai, Cebu, and Colombo's hill towns are key to national economies and bear climate-urbanization risks but evade liveability rankings focused on capitals and global hubs.
- b. **Infrastructure Overload Exposed:** Floods overwhelmed grey infrastructure designed for milder storms, more than 300 mm rain in 24 hours. Early warnings and evacuations proved partial leaving Thailand families trapped on upper floors for days, while Sri Lanka landslides hit at night.
- c. **Flaws in Urban Liveability Metrics:** Liveability indices assess basics like hospitals, schools, parks, and transit but overlook critical climate resilience. It does not talk about the capacity of drainage, risks from hillside buildings, landslides and cyclones etc.
- d. **Growth but not Safety:** A city that scores well on connectivity and business climate may also pay scant attention to drainage or slope stability, yet still attract more investment, even if that investment deepens exposure in floodplains or unstable hillsides. Public officials focus more on visible standards of modern city like airports and metros but pay least attention to need for desilting canals, enforcing building codes etc.
- e. **Inequity:** Rising land values and expanded infrastructure in flood-prone areas show up as higher prosperity and better access. When extreme rain arrives, wealthier residents benefit from better mobility and services and can often protect themselves with insurance while peri-urban settlers scramble in structures that crumble or flood first.

Global aid must shift from rewarding data-rich megacities to funding hyper-local hazard mapping and participatory risk audits in vulnerable secondary cities and informal settlements. Urban curricula should integrate resilience-first metrics like drainage capacity under extreme rain, slope stability zoning, and equitable relocation pathways—while governments incentivize "invisible" infrastructure (e.g., canal desilting, wetland restoration) through performance-linked budgets. Only by centring lived climate realities over prestige rankings can cities build genuine, inclusive safety for all.

## 20. Pollution in Delhi- New Health Emergency

**Context:** Delhi's air pollution hit emergency levels in December 2025, with AQI exceeding 450 (possibly 700 per international metrics).



Every winter, air pollution in Delhi spikes around this time when cold air traps smoke and fumes from fireworks, stubble burning and heavy traffic. The crisis is aggravated by vehicular and industrial emissions, massive road dust, construction activities and coal and biomass-fired residential heating.

## Reasons

- Topography:** Delhi's unique topography, bounded by the Himalayas and Aravalli Hills, prevents pollutant dispersal, exacerbated by winter temperature inversions, low winds, and urban heat islands that keep PM<sub>2.5</sub> near ground level. Emissions break down as vehicles/factories (33%), stubble/wood burning (20%), coal/household fuels, and dust; while stubble's role was minimal in 2025 per CPCB data, local combustion sources dominate.
- Policy gaps:** The National Clean Air Programme (NCAP) supports just 31% of target cities in meeting standards, with thermal plants dodging flue gas desulfurization deadlines (now 2027). A 2025 CAG audit exposed over 1 lakh faulty PUC certificates, zero inspections of testing centres, and skewed NCAP spending—67% on dust mitigation versus 14% for vehicles and 0.61% for industry—despite their larger contributions. Institutional overlaps dilute accountability.

## What can India learn from China?

Twenty years ago, Beijing was crowned as the world's smog capital.

- With the launch of a five-year national action plan in 2013, the country introduced a raft of measures, including the closure of coal-fired boilers, promoting public transport and new energy vehicles, accelerating technological reform of enterprises and boosting innovation and green energy.
- Special emphasis was given to slashing the "particulate matter (PM<sub>2.5</sub>)". These inhalable particles, equal or less than 2.5 microns in diameter, are a major source of air pollution and pose the greatest danger to human health over their ability to penetrate deep into the lungs and enter the bloodstream.

- Beijing's efforts, coupled with the establishment of an early warning and emergency response system, better regulation of pollution activities, relocation of factories from populated areas and incentives for farmers to discourage agricultural burning, made a lasting impact, showing a dramatic 35 percent improvement in highly polluted areas by 2017.
- Targeted air pollution control policies such as limiting construction-related emissions, deploying clean industrial technologies, cutting steel production, retiring old cars and encouraging the adoption of electric energy vehicles.
- China's steep reductions were so substantial that they single-handedly drove a decline in global pollution, highlighting the country's outsized contribution to improving air quality worldwide.

## Way forward:

- Adopt Targeted Actions:** Shut polluting factories, expand electric buses, enforce construction dust monitors, and coordinate across states like NCR.
- Boost Enforcement:** Set binding PM2.5 targets, real-time audits, and inter-provincial mechanisms, avoiding policy delays.
- Build Resilience:** Invest in farmer-centric stubble solutions, WHO-aligned standards, and health-linked data for sustainable gains amid development.

Air pollution demands urgent South-Southeast-East Asia collaboration, with India learning from China's past wins (factory shutdowns, EV fleets, real-time monitoring) amid its resurging challenges.

## 21. The dismal state of India's environment

**Context:** The Government has declared that any hills in the range with an elevation of less than 100 metres are not subject to the strictures against mining. This has brought to light the dismal state of environment and policy failures which further accentuate the crisis.

**CANOPY CRITERION TOO HIGH FOR HRY: EXPERTS**

**Definition of forest as per SC**  
Top court, in its 1996 TN Godavarman vs Union of India case, emphasised on application of 'dictionary meaning of forests' – which means all areas that meet the characteristics of forests must be protected under the Forest (Conservation) Act, regardless of the land's ownership or its status in govt records

**Haryana's criteria for 'forest by dictionary definition'**  
Puts the following two conditions for recognising forests:

- 1 5-hectare forest area in isolation
- OR 2-hectare forest area contiguous with a notified forest in govt records

2 These forests must have canopy density of at least 0.4, which means at least 40% of the ground should be covered by tree crowns

**What this excludes** | Scrublands, grasslands, strip forests, low vegetation forests, plantations, orchards, patches of agro-forestry vegetation, small groves, common lands

Experts say the state's definition would exclude most of the Aravalis that don't have any legal cover as the hill range is naturally a 'semi-arid' forest

## India's Environmental decline:

- **Rampant Deforestation:** India faces a deepening ecological crisis, marked by rampant deforestation, air and water pollution, and policy shifts that prioritize short-term development over long-term sustainability. Ecological hotspots like the Aravalli hills, vital for water recharge and pollution control, suffer from illegal mining and urban encroachment.
- **Pollution:** These activities have intensified water scarcity and dust pollution in nearby regions such as Delhi. Similarly, coastal zones face risks from relaxed Coastal Regulation Zone (CRZ) rules, permitting construction closer to shorelines and endangering mangroves and fisheries.
- **Lenient Exemptions:** Forests, once protected, now see diversions under the Forest Conservation Amendment Act 2023, which exempts certain lands from strict oversight. This has accelerated habitat loss, displacing tribal communities without adequate rehabilitation.
- **Poor mitigation of waste:** Air quality in northern India remains dire, driven by crop residue burning, vehicular emissions, and industrial effluents. These factors contribute to millions of premature deaths annually and exacerbate respiratory illnesses. Water bodies in states like Punjab and Delhi show rising contamination from untreated sewage and agrochemicals, rendering sources undrinkable and harming aquatic life.
- **Policy failures:** The Draft EIA Notification 2020 further dilutes environmental impact assessments by limiting public consultations and shortening compliance windows for violators. Over 100 environmental rules have been altered via executive orders in recent years, often favouring industry.

## Way Forward:

- Grant full autonomy to Pollution Control Boards:** Provide statutory independence, ring-fenced budgets (at least 1% of state GDP), and mandatory inclusion of independent scientists to eliminate political interference and boost enforcement capacity.
- Empower local institutions:** Equip Gram Sabhas and Tribal Councils with legal veto power over projects affecting forests or water, backed by digital platforms for real-time community reporting and transparent audits.
- Establish a National Environment Ombudsman:** Create an independent body to investigate violations, impose fines, and recommend prosecutions, reporting directly to Parliament.
- Rollback and revise key dilutions:** Revert Forest Conservation Amendment Act exemptions, restore full public hearings in EIA 2020, and tighten CRZ norms to protect 50m coastal buffers, with mandatory judicial review every five years.
- Criminalize high-impact violations:** Introduce personal liability for officials and executives in illegal mining cases, with asset seizures and 10-year bans from public contracts.
- Fast-track green legislation:** Enact a Unified Environment Protection Act consolidating fragmented laws, with simplified compliance for small enterprises but ironclad rules for large polluters.

- g. **Upgrade National Clean Air Programme:** Set legally binding PM2.5 reduction targets (50% by 2030), deploy 10,000 real-time monitoring stations, and link penalties to 5% of annual turnover for repeat offenders.
- h. **Eco-mining protocols:** Require 2:1 land restoration ratios, AI-monitored drone surveillance of mining sites, and biodiversity banks where restorers earn tradable credits.

The government's decision to exempt Aravalli hills under 100 meters from mining restrictions reveals a troubling prioritization of economic gains over ecological integrity, exacerbating India's environmental crisis. To truly recover, the government must cancel these exemptions, apply strong protection rules to all Aravalli hills, and involve local communities in safeguards. This will prevent permanent harm and ensure balanced, lasting growth.

## 22. World heading toward 'Peak glacier extinction' by mid-century

**Context:** By the middle of the century, the number of glaciers disappearing is set to peak at up to 4,000 a year, if humans keep pumping out climate pollution, according to a study published Monday in Nature Climate Change. That's equivalent to losing all the glaciers in the European Alps in just one year.

Scientists usually measure how much ice glaciers lose as Earth gets warmer by tracking total size or volume, not the number that vanish completely. Counting glaciers is tough. Scientists often miss tiny or rock-covered ones, but there are over 200,000 around the world right now.

### Why Glacier Numbers Matter

Experts argue that pinpointing when and where specific glaciers will vanish reveals the full impact of climate change. It's not just thinning ice; it's total extinction for many, as noted at the 2019 "funeral" for Switzerland's Pizol glacier.

### What did the study reveal?

- Scientists studied the world's glaciers with a big global database to find "peak glacier extinction"—the time when the most glaciers will disappear.
- They ran computer models to predict when each one would shrink too much to still be called a glacier: when its area drops under 0.01 square km (about one football field) or its ice volume falls below 1% of what it was around 2000.
- Their analysis found that glacier extinction will peak around mid-century, with the exact timing and extent dependent on the level of global warming.
- If the world manages to keep warming to 1.5 degrees Celsius above pre-industrial levels, the number of individual glaciers disappearing will peak around 2041, at roughly 2,000 per year.
- At 4 degrees of warming, that peak shifts to the mid-2050s and intensifies to around 4,000 a year. This is 3 to 5 times higher than the present rate of global loss.
- The world is currently on course for around 2.7 degrees of warming if climate pledges are met. At

this level, peak extinction will happen over a longer period, with the world losing around 3,000 glaciers a year between 2040 and 2060.

- The researchers also drilled down to specific regions. In areas where smaller glaciers dominate, such as the European Alps, parts of the Andes and North Asia, more than half the glaciers are expected to disappear within the next two decades.
- They are also expected to see an earlier peak in glacier extinction, around 2040.
- regions with bigger glaciers, including Greenland and the Russian Arctic, will see a delayed peak in glacier extinction, later in the century.
- Only 20% of glaciers are expected to remain by 2100 under 2.7 degrees of warming, compared to around 50% at 1.5 degrees. At 4 degrees, the world is looking at a nearly complete loss of glaciers.

## Implications of Glacier loss

The losses will have significant implications

- Cultural as well as economic loss:** Glaciers are a vital source of water for many communities but beyond that, they are a tourist draw, attracting millions of visitors each year and many ski resorts depend on them. They also hold a deep cultural importance for communities, tied to local traditions.
- Community Loss:** As glaciers shrink, communities are confronted with these changes, sometimes marking their loss with symbolic rituals, such as the 'glacier funerals' for Okjökull glacier (Iceland, 2019), Pizol glacier (Switzerland, 2019) and Yala glacier (Nepal, 2025). These ceremonies highlight the emotional and societal dimensions of glacier loss.



Glaciers are heading toward a "peak extinction" by mid-century, potentially losing up to 4,000 each year if emissions stay high. Every bit of warming matters. Quick cuts in greenhouse gases could cut that number in half, saving about half the world's ice by 2100 and protecting water for billions while avoiding massive environmental damage. We need strong climate action now, before these ancient ice giants disappear forever.

## 23. World Soil Day

**Context:** The World Soil Day 2025 is celebrated annually on December 5. It was established by the Food and Agriculture Organization (FAO) of the United Nations. It highlights the importance of soil as a life-sustaining resource.

**Theme: Healthy Soils for Healthy Cities.**

It emphasizes the importance of urban soil in building resilient urban futures. With over 56% of the global population now residing in cities, urban soil is positioned as a crucial factor in addressing urban challenges such as food insecurity, pollution, flooding, and extreme heat.

### Need for healthy urban soil

Healthy urban soil is vital for sustainable cities, addressing key challenges like climate resilience and pollution.

- A. Climate Regulation:** Healthy soils reduce urban heat islands by supporting vegetation that cools cities and sequesters carbon. They mitigate extreme weather impacts, crucial for India's heat-stressed metros like Delhi.
- B. Flood Control:** Urban soils act as natural sponges, absorbing rainwater to prevent flash floods and recharge groundwater. This counters concretisation in cities, aligning with National Mission for Sustainable Habitat.
- C. Biodiversity Support:** Soils host microbes, earthworms, and pollinators under parks and green spaces, boosting urban ecosystems. Degradation threatens food chains, relevant to India's biodiversity conservation policies.
- D. Food Security:** Fertile urban soils enable community gardens and rooftop farming, shortening supply chains amid rising urban populations. Supports Atmanirbhar Bharat's local food resilience goals.

The idea of an international day for soil was first proposed by the International Union of Soil Sciences in 2002. FAO promoted its formal recognition, leading to the FAO Conference Endorsing World Soil Day in 2013. The UN General Assembly then officially designated 5th December 2014 as the first World Soil Day.

### India's Soil Initiatives

Initiative	Launch Year	Objectives	Key Components/Details	Achievements (as of 2025)	UPSC Relevance
Soil Health Card Scheme	2015	Promote nutrient-based farming, balanced fertilizer use, and long-term soil fertility via soil testing.	<ul style="list-style-type: none"> <li>- Tests 12 parameters (N, P, K, pH, OC, S, Zn, B, Fe, Mn, Cu, EC).</li> <li>- Cards issued every 2 years with crop-specific recommendations.</li> <li>- Mobile app, national portal for multilingual SHCs.</li> <li>- Financial aid for corrective measures; capacity building for farmers/staff.</li> </ul>	24.74 crore cards issued; coverage up from 16 lakh (2020-21) to 53 lakh (2024-25).	Agri-tech intervention; links to Doubling Farmers' Income, sustainable agriculture.
Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)	2015	"More crop per drop"; expand irrigation coverage, reduce erosion via efficient water use.	<ul style="list-style-type: none"> <li>- Har Khet Ko Pani (irrigation access).</li> <li>- Per Drop More Crop (micro-irrigation).</li> <li>- Watershed management for moisture retention, soil stabilization.</li> <li>- Integrated with AIBP, IWMP.</li> </ul>	102 lakh ha irrigation potential created; 52 lakh ha under micro-irrigation.	Water conservation, drought mitigation; aligns with National Water Mission.
Watershed Development Programs (e.g., IWMP, Neeranchal)	2009 (merged into PMKSY)	Combat land degradation, enhance soil moisture, reduce runoff/erosion in rainfed areas.	<ul style="list-style-type: none"> <li>- Ridge-to-valley treatment: check dams, afforestation, gully plugging.</li> <li>- Soil conservation structures (trenches, percolation tanks).</li> <li>- Livelihood support via horticulture, water harvesting.</li> </ul>	7 lakh watersheds treated; 2.5 crore ha land restored.	Integrated Watershed Management Programme; rural resilience, climate adaptation.
MGNREGA Land Works	2005 (soil focus enhanced post-	Generate wage employment via soil restorative	<ul style="list-style-type: none"> <li>- Farm ponds, check dams, vermicomposting, horticulture.</li> <li>- Land levelling,</li> </ul>	80 lakh farm ponds dug; 15 crore cubic meters soil/earth work annually.	Rural employment -soil health synergy; decentralize

Initiative	Launch Year	Objectives	Key Components/Details	Achievements (as of 2025)	UPSC Relevance
	2015)	assets on private/farm lands.	bunding for erosion control/water conservation. - Convergence with agri schemes; individual beneficiary focus.		d governance, SDG-2/15.
Smart Cities Mission	2015	Foster soil-friendly urban design amid concretisation; promote green infrastructure.	- Permeable pavements, rain gardens, bioswales for soil infiltration. - Urban green spaces, rooftop gardens, sustainable landscaping. - Soil testing in parks; waste composting for urban soils. - 100 cities retrofitted (e.g., permeable surfaces in Bhubaneswar).	70+ cities with green infra; 1,200+ projects on open spaces/stormwater.	AMRUT 2.0 extension; urban sustainability, heat island mitigation (GS1/3).

## Economy

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### 24. AI is Driving a New Global Supply chain

**Context:** The AI boom is sparking a global scramble for memory chips, with tech giants racing to stockpile supplies amid surging demand. This frenzy risks crippling production lines and hiking prices worldwide.

#### What's happening?

- Japanese electronics stores now limit hard-disk drive purchases per customer to manage shortages.
- Chinese smartphone makers warn of coming price hikes due to tight memory chip supplies.
- Tech giants—Microsoft, Google, ByteDance—are urgently securing memory chips from Micron, Samsung, and SK Hynix, per sources in the talks.

Implications of the rising prices:

- Impact on digital infrastructure:** Imminent shortage risks may slow AI-based productivity gains and delay hundreds of billions of dollars in digital infrastructure. It could also add inflationary pressure just as many economies are trying to tame price rises and navigate U.S. tariffs.
- Macroeconomic risk:** The AI expansion is clashing with supply chains unable to fulfill its material demands, underscoring vulnerabilities in global industrial infrastructure. Chipmakers fall short on high-end AI semiconductors while shifting from traditional memory, starving smartphones/PCs thus exposing supply chain risks.
- Delay in new capacity:** the shortage would delay future data-center projects. New capacity takes at least two years to build but memory-chip makers are wary of overbuilding for fear it could end up idle should the demand surge pass.

#### Implications for India

- Urgency for Semicon Mission:** The risk emanating from supply shortage amidst AI boom will help in expediting India's semiconductor mission. enabling indigenous HBM/DRAM production for AI data centres—bolstering strategic self-reliance.
- AI Strategy Boost:** The chip crisis aligns seamlessly with India's #AIforAll vision under the IndiaAI Mission, By fast-tracking domestic HBM/DRAM production, it shields national infrastructure from foreign shortages, carving India's niche in US-China chip geopolitics—fortifying digital sovereignty for Viksit Bharat.
- Datacentre Delays Hamper AI Mission:** Global fab construction lags (2+ years) stall expansions, raising compute costs 10-20% and threatening infrastructure critical to IndiaAI Mission.

- d. **Consumer & Industrial Fallout:** Smartphone/PC price surges (10-15%) undermine Digital India goals, while MSME electronics shortages disrupt Make in India, exposing import vulnerabilities.

The global memory chip crisis, propelled by AI demand, serves as a clarion call for India's Atmanirbhar Bharat in semiconductors and AI—transforming vulnerabilities into strategic imperatives. Accelerated investments via the ₹76,000 Cr Semicon Mission and IndiaAI Mission (18,000+ GPUs) will not only mitigate short-term disruptions but position India as a resilient player in US-China geopolitics, ensuring inclusive digital growth for Viksit Bharat by 2047.

## 25. Unlocking the potential of India-Africa economic ties

Context: Prime Minister of India visited Namibia and Ghana, as part of a five-nation tour (including Trinidad and Tobago, Argentina and Brazil) in July 2025 and Ethiopia in December 2025, this has shifted the focus to India-Africa economic ties.

India and Africa share a long history of cultural affinity and political solidarity, but their relationship has increasingly been shaped by economics in recent decades.



### Why is Africa a potential economic destination for India?

b. **Uncertainty in global market:** In FY24, India's exports to the United States and the European Union constituted around 40% of its total exports. Given the rising unpredictability of these markets and the threat of a potential slowdown, it is essential that India looks to other markets, particularly African economies.

c. **Significant Trade Partner:** India ranks as Africa's fourth-largest trading partner, with bilateral trade nearing \$100 billion. In FY24, India exported \$38.17 billion worth of goods to key destinations like Nigeria, South Africa, and Tanzania. Major exports included petroleum products, engineering goods, pharmaceuticals, rice, and textiles. In 2024, Africa's imports from India constituted about 6% of its total imports.

d. **Counter to China's influence:** China is Africa's top trading partner, with bilateral trade surpassing \$200 billion. In 2024, about 21% of Africa's total imports came from China. Notably, 33% of those imports were

machinery and electronics (HSN 84 and 85 categories), showcasing China's manufacturing strength.

### Pillars to build a strong relationship: What India must do?

- a. **Remove Barriers:** The first strategic pillar should focus on removing trade barriers and engaging in negotiations for preferential trade agreements and comprehensive economic partnership agreements with regional economic communities and the major African economies.

- b. **Take advantage of incentives for better engagement:** The second pillar should aim to move from low-value commodity exports to two-way value-added and cross-border joint venture manufacturing.

Indian firms lag in utilizing the incentives offered by multiple African governments to enable firms to set up manufacturing units. For Indian enterprises, setting up manufacturing facilities across Africa presents a strategic dual advantage. It enables them to maintain preferential access to the U.S. market through favorable tariff regimes, while simultaneously capitalizing on Africa's growing consumer base and industrial demand

- c. **Transition in exports:** Moving beyond petroleum and traditional exports is critical in transitioning to a new phase of India's ties with African economies. Greater involvement with African regional groupings such as the African Continental Free Trade Area (AfCFTA) can open greater opportunities for Indian exporters.
- d. **Scaling up Line of control:** The African market offers a great opportunity for the micro, small and medium enterprises (MSME) segment, unlike the European and American markets where MSMEs find it difficult to gain a foothold. Ensuring easy access to trade finance is critical in achieving a sustainable trade relationship with the continent.
- e. **Adoption of local currencies for trade:** adopting trade in local currencies, and forming a joint insurance pool to cover political and commercial risks for medium-term projects which may reduce the perceived risk for small and medium enterprises and banks.
- f. **Lowering freight and logistics cost:** investing in port modernisation, hinterland connectivity and in developing India-Africa maritime corridors.
- g. **Scaling up of services, digital trade, and people-to-people links:** It is essential that India leverages its strength in Information Technology, health care, professional services and skill development to boost services exports and stimulate goods trade. Services enable high-value exports and facilitate greater two-way trade.



## Challenges

- India's investments in Africa are inflated by investments in Mauritius which are often done with an intent to evade taxes.
- Multiple factors, including bureaucratic hurdles, political instability and financing costs act as barriers for Indian firms to invest in Africa. Indian firms, particularly the public sector units must take the lead in investing in the African continent, particularly in mining and mineral exploration.

India must shift from mere trade deals with Africa to strong, lasting partnerships. As global supply chains shift in a multipolar world, Africa is key to India's rise as an economic power. Now is the time to deepen ties across the continent.

## 26. Rapid Financing Instrument

**In News:** The International Monetary Fund has approved emergency funding of USD 206 million under its rapid finance instrument to help Sri Lanka address urgent needs arising from the catastrophic Cyclone Ditwah.

### What is RFI?

The Rapid Financing Instrument (RFI) provides prompt financial assistance to any IMF member country facing an urgent balance of payments need. The RFI is one of the facilities under the General Resources Account (GRA) that provide financial support to countries, including in times of crisis.

### Types of RFIs:

- Regular Window:** Covers needs from instability, external shocks, or fragility.  
Limits: 50% of quota yearly; 100% cumulative.
- Large Natural Disaster Window:** For disasters damaging  $\geq 20\%$  of GDP.  
Limits: 80% of quota yearly; 133.33% cumulative

Aspect	Regular Window	Large Natural Disaster Window
Purpose	Urgent BoP needs from instability, shocks, fragility	BoP needs from natural disasters (damage $\geq 20\%$ GDP)
Annual Access	Up to 50% of quota	Up to 80% of quota
Cumulative Access	Up to 100% of quota	Up to 133.33% of quota

### Key Significance for Small States

The IMF's Rapid Financing Instrument (RFI) acts as a critical lifeline for small countries facing sudden economic shocks, delivering quick cash without the red tape of traditional loans.

Small nations (e.g., Pacific islands, Caribbean microstates) often have tiny GDPs, limited reserves, which is why disaster relief becomes a tedious task. Since, they these countries are also more susceptible to climate change risks rapid Financing instrument provides them an adequate window to manage disasters and its outcomes.

- a. **Speedy relief:** Approval in 1-2 weeks (vs. months for other facilities); funds hit accounts in days—essential when forex dries up post-shock.
- b. **Generous Limits:** Regular window (50%/year quota); disaster window (80%/year, 133% cumulative) scales to their needs, no ex-post conditions.
- c. **No Austerity Trap:** Unlike Stand-By Arrangements, no spending cuts or tax hikes demanded upfront—lets them prioritize relief, imports (food/fuel).

The IMF's Rapid Financing Instrument stands as an indispensable tool for small countries, delivering rapid, no-strings-attached liquidity to avert collapse amid shocks that dwarf their limited reserves. By enabling swift recovery without austerity burdens, RFI not only stabilizes vulnerable economies but also underscores the need for IMF reforms to better serve the Global South—aligning with India's push for equitable multilateral lending in an era of climate and geopolitical turbulence.

## IMF: International Monetary Fund

International Monetary Fund (IMF) is a global financial institution established in 1945 to promote international economic cooperation and financial stability. Founded after the Bretton Woods Conference, it comprises 191 nations that work together to address balance of payments issues, foster macroeconomic stability, and facilitate international trade, with the Principality of Liechtenstein having become the 191st member on October 21, 2024.

### Objectives:

The primary objectives of the International Monetary Fund (IMF) include promoting global monetary cooperation, fostering trade and economic growth, and discouraging policies that could hinder prosperity.

IMF provides various lending instruments tailored to countries' needs and circumstances. These include:

- Stand-By Arrangement (SBA)
- Standby Credit Facility (SCF)
- Extended Fund Facility (EFF)
- Rapid Credit Facility (RCF)
- Rapid Financing Instrument (RFI)
- Flexible Credit Line (FCL)
- Precautionary and Liquidity Line (PLL)
- Extended Credit Facility (ECF)

Report Name	Frequency	Purpose
World Economic Outlook (WEO)	Biannual (Apr/Oct)	Global growth forecasts, inflation, risks analysis.
Global Financial Stability Report (GFSR)	Biannual (Apr/Oct)	Financial system vulnerabilities, stability risks.
Fiscal Monitor	Biannual (Apr/Oct)	Public debt trends, fiscal policy sustainability.
Annual Report on Exchange Arrangements & Restrictions (AREAER)	Annual	Exchange rate regimes, capital controls tracking.
External Sector Report	Annual	Current account imbalances, trade competitiveness.
Regional Economic Outlooks	Biannual	Africa, Asia, etc.— regional growth, policy advice.

## 27. Indian Ocean- Cradle for Blue Economy

**Context:** Amid climate threats, biodiversity decline, and unchecked exploitation, India holds a unique opportunity and duty to champion a sustainable Blue Economy, blending stewardship, resilience, and equitable growth.



## The BBNJ Agreement (Biodiversity Beyond National Jurisdiction), or High Seas Treaty:

- It is a crucial UN treaty adopted in 2023 and effective January 2026, aiming to conserve marine life in international waters (beyond EEZs). The negotiations have propelled the countries to rethink about Oceans in terms of future security and prosperity.
- The Indian Ocean, home to one-third of humanity, is already one of the most climate-vulnerable basins on earth.

This agreement has renewed the focus on Blue Economy. For the first time, Indian Ocean is being seen not only as a maritime space which has strategic importance geo-politically but as a cradle of sustainability, climate resilience and equitable growth.

## Opportunities for India

- India now has both the opportunity and the responsibility to play a historic leadership role.
- The goal isn't to make new laws, but to change practices, so the Indian Ocean becomes a hub for sustainability, innovation, and resilience, not rivalry.
- **India's Indian ocean strategy rests on three pillars:**
  1. **Stewardship of the commons:** India must assert Indian Ocean as a shared space not a contestation. It must focus on ecosystem restoration, biodiversity protection, and sustainable fisheries, India can set the tone for cooperative management, rather than competitive exploitation.
  2. **Resilience:** Amidst rising climate change incidents, Countries must realign with goals of adaptation and preparedness. India can lead by establishing a Regional Resilience and Ocean Innovation hub that strengthens ocean observation networks, improves early warning systems, and transfer technology to small island developing states and African coastal nations.
  3. **Inclusive growth:** The Indian Ocean must become a driver of prosperity for all littoral states. Green shipping, offshore renewable energy, sustainable aquaculture, and marine biotechnology offer pathways to development that are compatible with climate goals. Realising this potential, however, will require sustained investment and coordinated regional action.

## Security through sustainability

The fundamental reality is ocean insecurity begins with ecosystem collapse and climate disruption.

- a. **Addressing threats:** Illegal, unreported, and unregulated (IUU) fishing, coral reef degradation and intensifying storm surges erode livelihoods and undermine social stability. Addressing these threats requires a shift from traditional notions of maritime security toward security through sustainability.
- b. **SAGAR Doctrine:** India's SAGAR doctrine, unveiled by PM Narendra Modi in Mauritius in 2015, provides a vital foundation for regional maritime security and growth.
- c. **Indian Navy and the Indian Coast Guard:** Indian navy and Indian Coast Guard along with civilian agencies can deepen regional cooperation in maritime domain awareness, disaster response and ecosystem monitoring - aligning security objectives with environmental stewardship.
- d. India's approach to the Indian Ocean should be cooperative, consultative, and outcome-oriented, aimed at shared prosperity and stability. **The guiding principle should be simple and resonant:**

**“From the Indian Ocean, for the World.”**

- e. **Historic Responsibility:** COP30 in Belém (2025) and the G-20 Summit in Johannesburg recognised the importance of terrestrial and marine ecosystems for climate stability, sustainable development, and community resilience as well as anchoring scaling up of finance and support for developing countries, aligning with the equity dimensions of ocean action.

## Challenges:

### India’s future in ocean leadership gives it the responsibility.

- a. **Global Finance:** At the Blue Economy and Finance Forum (BEFF) held in Monaco, in June 2025, governments, development banks and private investors highlighted a €25 billion pipeline of existing ocean investments and announced €8.7 billion in new commitments, with near-parity between public and private sources.
- b. **COP30 declaration:** At COP30 in Belém, the Brazilian Presidency launched the One Ocean Partnership as part of the Belém Action Agenda, committing to mobilise \$20 billion for ocean action by 2030. This has reaffirmed that climate finance is now on global agenda.
- c. **India’s efforts:** An Indian Ocean Blue Fund, seeded by India and open to contributions from development banks, philanthropy, and the private sector, could provide the institutional architecture needed to turn pledges into projects.
- d. **Cooperation:** the ocean is not a void to be filled or a frontier to be conquered. It is the foundation of life itself. Therefore, it demands global cooperation.

If India leads with ambition, humility, and inclusivity, the Indian Ocean can once again demonstrate what was evident during UNCLOS negotiations: that even in the most complex of arenas, cooperation can prevail over conflict, and solidarity over rivalry.

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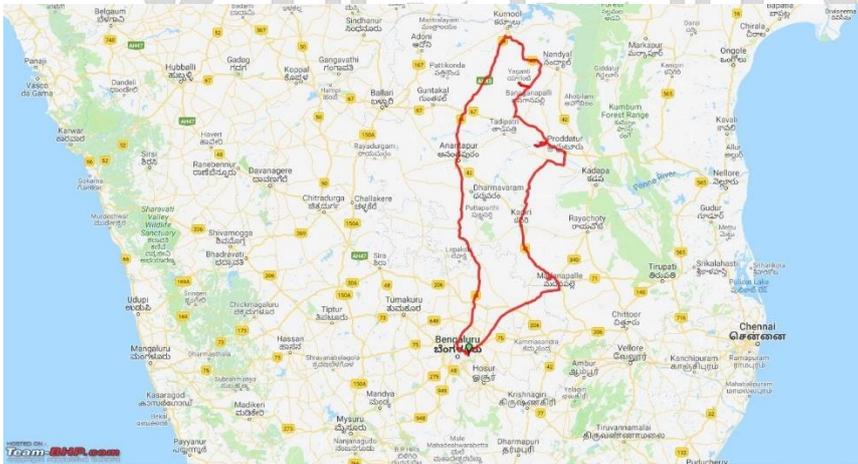
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## Geography

### 28. Gandikota Canyon- The Great canyon of India

Gandikota Canyon, called the "Grand Canyon of India," is an amazing natural gorge in Kadapa district, Andhra Pradesh. The gorge is a stunning maze of jagged rocks layered in shades of red. The stunning gorge has been created by the waters of the famous river Pennar that streams from the Erramala hills. This forms steep rocky cliffs and a stunning landscape like the U.S. Grand Canyon.

**In News:** despite being a spectacular site it remains underdeveloped though there are plans in place to boost tourism infrastructure.



#### Historical Significance

- Adjacent to the canyon lies the 13th-century Gandikota Fort, built by Kakatiya rulers and later fortified by Vijayanagara kings.
- Key structures include the towering granite granaries, Chandranathaswamy Temple, Rani Mahal palace, and a historic aqueduct channelling Pennar waters, making it a prime example of integrated natural-historical heritage.

#### Current Importance

- A rising eco-tourism hotspot with camping, trekking, and coracle rides, it faces challenges like over-visitation eroding fragile slopes.
- Recent govt initiatives promote it under Swadesh Darshan for sustainable development, highlighting river basin management in drought-prone Rayalaseema region.

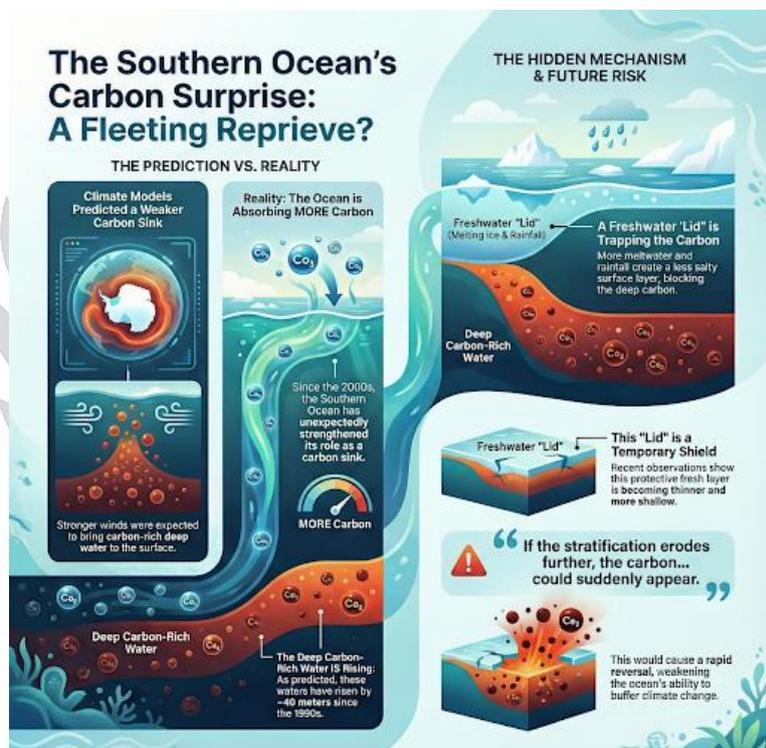
### 29. Southern Ocean Carbon Anomaly

**In News:** Recent observations have shown that natural variability has strengthened the ocean's carbon sink, absorbing more CO<sub>2</sub> than expected.

#### Why in News?

For two decades, climate models predicted that intensifying westerly winds and rising greenhouse gases would drive carbon-rich deep waters to the Southern Ocean's surface, accelerating CO<sub>2</sub> release into the atmosphere and worsening global warming.

Surprisingly, recent observations reveal the reverse. This unexpected twist challenges our understanding of polar ocean dynamics and climate feedbacks.



## Southern Ocean:

The Southern Ocean, encircling Antarctica like a frigid protective moat, remains one of Earth's most mysterious and under-explored bodies of water despite its critical influence on global climate.

## Key Geographic Features

- Narrowest chokepoint: Drake Passage (~1,000 km wide) between South America and the Antarctic Peninsula.
- The Southern Ocean includes Weddell Sea, Ross Sea, Amundsen Sea, Bellingshausen Sea, and parts of the Scotia Sea
- No continental landmass interrupts its flow.

## Why It's Hard to Study

Its remote location, brutal weather with towering waves and icebergs, and powerful currents make fieldwork extremely challenging. Fewer ship tracks and limited satellite data leave vast gaps in our knowledge of its depths and dynamics.

## Significance

- This ocean drives the global overturning circulation—think of it as a massive conveyor belt—that

shuttles heat from tropics to poles. Its cold surface waters efficiently dissolve CO<sub>2</sub> from the air and store heat, acting as a buffer against rapid warming.

- Covering 25-30% of Earth's total ocean surface (about 20 million sq. km), it punches above its weight by absorbing roughly 40% of all human-emitted CO<sub>2</sub> that oceans take up annually equivalent to over 1 billion tons of carbon yearly. This sink capacity stems from upwelling of nutrient-rich deep waters fuelling phytoplankton blooms that lock carbon via the biological pump.
- This ability of the ocean comes in large part from its cold and relatively fresh surface layers, which sit like a lid on top of the warmer, saltier, carbon-rich reservoirs. This arrangement allows the ocean to trap a lot more carbon dioxide than it emits.

## Findings

- Climate models had long predicted that rising greenhouse gas concentrations, coupled with a thinning ozone layer, would intensify the westerly winds over the Southern Ocean and shift them poleward.
- This change in atmospheric circulation was expected to enhance oceanic upwelling (bringing deep, carbon-rich waters closer to the surface).
- The intensified meridional overturning circulation would thereby expose these carbon-laden waters to the atmosphere, potentially weakening the Southern Ocean's function as a carbon sink.
- However, long-term observations since the early 2000s show that the Southern Ocean has continued to absorb more carbon dioxide, as rising Carbon-rich circumpolar deep waters remain trapped 100–200 metres below the surface, preventing atmospheric release.

## What did the Previous Models say?

- The models have been saying that the Southern Ocean could become less of a sink as the world warms. Specifically, the models said stronger westerly winds and more greenhouse gases in the atmosphere would pump more carbon-rich deep water up towards the surface, which would release carbon dioxide into the air and reduce the ocean's ability to buffer global warming.
- Since the early 2000s, scientists have found the Southern Ocean to be soaking up more carbon, not less.

## Carbon Sink Role

- The Southern Ocean absorbs nearly 40% of all anthropogenic CO<sub>2</sub> taken up by the world's oceans. It plays a critical buffer role against global warming.
- It is responsible for absorbing around 75% of the excess heat generated by greenhouse gas emissions.
- The Southern Ocean anchors the meridional overturning circulation (MOC), the ocean's vital "conveyor belt" redistributing heat and nutrients worldwide.

## What did the models Missed?

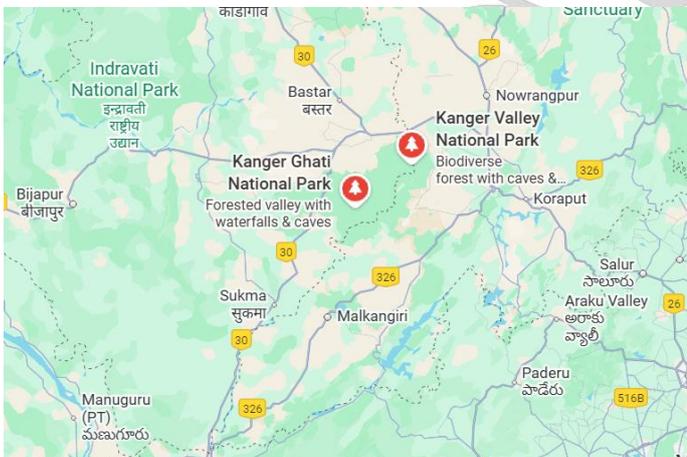
- Over the last few decades, the Southern Ocean has been becoming fresher (or less salty) thanks to more rainfall, transport of sea ice, and more meltwater from Antarctica's glaciers. Fresher water is lighter. When it accumulates at the surface, it strengthens stratification, i.e. the amount of layering that separates the cooler and more buoyant surface from the warmer and saltier waters below.

- This stratification prevented the carbon-rich water from the deep from being exposed to the atmosphere. Instead it seems to be trapped 100-200 m below the surface.
- Strong winds could more easily reach below the stratified layer and into the deep waters that are warm, saline and rich in carbon dioxide. Once these waters mix, it will be harder to re-stratify the upper layer.
- The deep carbon dioxide reservoir is already closer to the surface than it used to be. So if the stratification erodes further, the carbon that models expected to see at the surface decades ago could suddenly appear.

Rather than undermining climate models, these findings affirm their vital role: they spotlight critical processes for observation, ultimately explaining the Southern Ocean's surprising behavior. Models expose vulnerabilities, while observations uncover exceptions—together, they capture the nuanced reality of Earth's climate system.

## 30. Kanger Valley National Park

In News: The Chhattisgarh government has intensified efforts to safeguard the Kanger Valley National Park in Bastar, a revered UNESCO World Heritage Site celebrated for its biodiversity and ecological significance.



Kanger Valley National Park is a biodiversity-rich protected area known for its dense forests, limestone caves, waterfalls, and diverse ecosystems, making it one of the most ecologically significant national parks in Central India.

### About Kanger Valley National Park:

- It is located in Jagdalpur in the Bastar district of Chhattisgarh state.
- Declared a National Park in 1982
- Managed under Jagdalpur Wildlife Circle, comprising Kotumsar and Koleng ranges
- The National Park derives its name from the Kanger River, which flows centrally from the Northwest to the Southeast direction.
- The Kanger River is a tributary of the Kolab River, which ultimately joins the Godavari River
- It features low flatlands, gentle slopes, steep inclines, plateaus, deep gorges, valleys, and winding stream courses.
- The national park has more than 15 limestone caves, including the famous Kotumsar, Kailash, and Dandak caves.

## Agriculture

### 31. When Cotton clouds hang heavy

**Context:** Following heavy rainfall in October and the subsequent drop in the price of cotton, six farmers have died by suicide in Gujarat. The Union government's decision to allow duty-free cotton imports has only added to their woes.

#### Import woes

An increase in the import of cotton in the last two years has brought to fore the urgent need for measures to improve cotton productivity in India



**Cotton and raw cotton imports (in \$ million)**

Month	2023	2024
January	28.99	19.62
February	34.69	31.43
March	55.01	48.8
April	45.3	37.91
May	58.09	43.88
June	95.1	70.22
July	88.72	86.29
August	74.9	104.89
September	39.91	134.2
October	36.68	127.71
November	30.61	170.73
December	29.47	142.89
Month	2024	2025
January	19.62	184.64

#### What Happened?

- Gujarat's cotton farmers are facing grave trouble from heavy rains, crashing prices, slow government buying, and duty-free imports allowed by the Centre. This crisis exposes flaws in India's cotton sector, like global market risks, weak safety nets, and shaky price controls.
- In August, the Union government exempted all customs duties on the import of raw cotton until September 30. It stated that the measure would bring relief to manufacturers and consumers. On August 28, the government further extended the

import duty exemption until December 31.

- The Central Board of Indirect Taxes and Customs announced this decision to steady input costs throughout the textile industry—from yarn and fabric to garments. The aim was to bring relief to manufacturers and consumers. The move was thought to keep India's textile sector competitive worldwide while protecting local cotton farmers.
- Six farmer suicides within one month after heavy October rainfall drastically damaged crops and market prices crashed. This collapse is occurring despite cotton prices having remained high for nearly a decade. This marked a sharp reversal from the earlier trend of price stability and strong export demand.

#### Government's claim

The government says farmers' interests are protected by the Minimum Support Price (MSP) system. This is run by the Cotton Corporation of India Ltd. (CCI). It guarantees farmers get at least 50% more than their production costs.

#### Reasons for Distress

- Crop ruin from rains: Saurashtra's standing cotton fields wiped out, pushing farmers like Dhanabhai and Bharatbhai to take fresh loans for labor and harvest.
- Price plunge: Despite guaranteed MSPs, Farmers complain of stagnant cotton prices amidst rising input costs.
- Unrecoverable expenses: Around ₹60,000 per hectare spent, but low prices leave no profit or break-even.

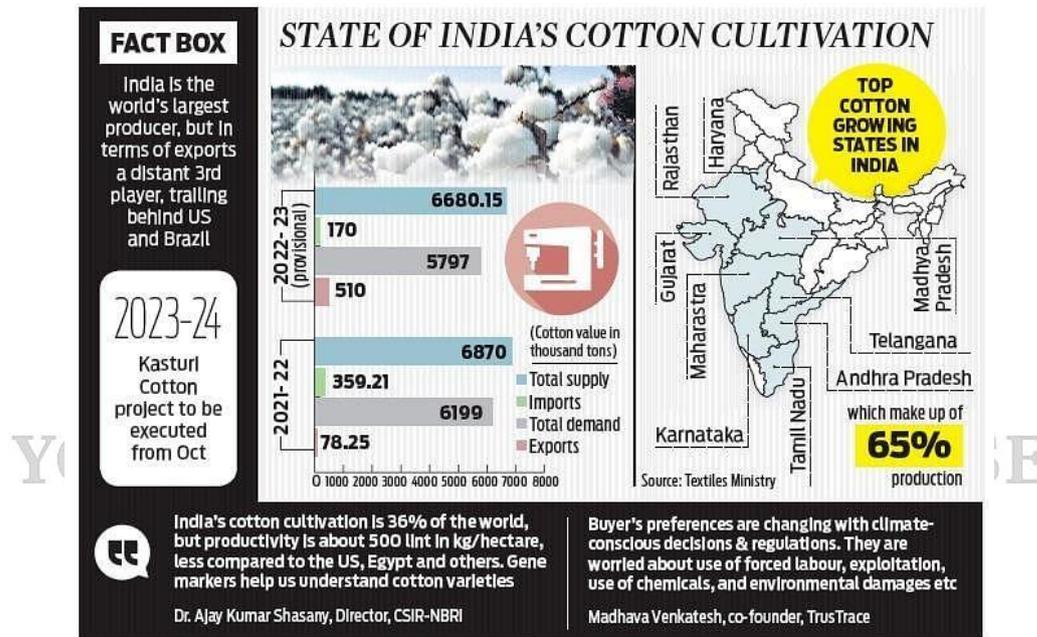
- d. No aid in sight: Government compensation for rain damage is delayed or absent, bypassing most small farmers.
- e. Mental toll: Rising suicides as debts mount and price shocks hit hard.

## Problems in Importing Cotton:

- a. **Rise in Imports:** India imported cotton (raw and waste) worth ₹2,069.12 in October 2025, which is almost twice as much as it imported in October 2024 (₹1,073.08 crore).
- b. **Global competition enables imports:** India is the world's second-largest cotton producer after China, the textile industry has been pushing for cotton imports, largely because countries such as the United States, China, and Brazil offer cheaper cotton. Additionally, Cotton industry is the second largest employer after agriculture.
- c. **Consequences of rising imports:** Import of Raw cotton has added to farmer's distress with rainfall only adding it further.

## Market Paralysis:

- a. **Global export slump:** India lost its top cotton exporter spot to Bangladesh, Vietnam, Pakistan, and Indonesia's cheaper options.
- b. **Soaring transport expenses:** High freight and diesel costs inflate processing and shipping for farmers and mills.
- c. **Mills favour imports:** Domestic factories shift to low-cost foreign cotton, slashing local purchases.
- d. **Rain-hit quality drop:** Damaged crops lose appeal, with ginners rejecting lower-grade cotton.
- e. **Ginners dodge MSP risks:** They skip government procurement to avoid global market losses.



## Shift to traditional cotton

- Cotton farmers are shifting back to traditional cotton production from BT cotton to reduce input costs. As traditional cotton requires less pesticide and water, thus low input cost.
- Traditional varieties resist pink bollworm, a major menace

In essence, while BT cotton boosts yields, its vulnerability to diseases, climate risks, and monopolistic seed control by private firms—exacerbated by the proposed Seeds Bill—threatens farmers' futures. This underscores the urgent need for balanced policies ensuring affordable inputs, robust MSP enforcement, and APMC reforms to secure India's cotton economy amid emotional and economic stakes.

## 32. Industrial Hemp- Green to Gold initiative

In News: To reshape the hill state's economic future, Himachal Pradesh CM has launched Green to Gold initiative aimed at transforming industrial hemp into a key driver of sustainable growth.

### Making hemp HP's growth engine

**Shimla:** To reshape the hill state's economic future, chief minister Sukhvinder Singh Sukhu has launched the 'Green to Gold' initiative, aimed at transforming industrial hemp into a key driver of sustainable growth. A pilot project for controlled cultivation is soon set to begin.

#### About Green to Gold initiative

- The 'Green to Gold' initiative has been launched by Himachal Pradesh Government to promote self-reliance and strengthen the state's bio-economy by 2027.
- The initiative seeks to transform cannabis from a wild and illegally associated plant into a regulated and valuable industrial resource.
- The policy is described as a transition from "wild weed to Himalayan gold."
- It aims to replace the association of cannabis with illicit drug trade by highlighting its medicinal and industrial applications.
- The initiative is intended to support sustainable rural growth, startups, and youth employment.

**Hemp, once wild and linked to drugs, offers uses in pharma, textiles, biofuels, and construction; it could generate ₹1,000-2,000 crore yearly.**

#### About Industrial Hemp:

Industrial hemp is a non-psychoactive variety of Cannabis sativa with THC below 0.3%, making it safe and non-intoxicating. It grows fast (3-4 months), thrives in poor soils, and needs 50% less water than crops like cotton.

#### Key Uses

- Fibers (Bast Fibers from Stems):** Hemp provides durable, long fibers ideal for textiles like clothing (jeans, t-shirts), ropes, canvas, and upholstery. These are stronger than cotton, breathable, UV-resistant (blocks 95%), antimicrobial, and require fewer pesticides/water.
- Seeds and Oil:** Seeds yield edible oil and protein-rich nuts for food/supplements; oil is used in cosmetics (moisturizers, soaps) and biofuels (biodiesel). High in omega fatty acids, they support nutrition without psychoactive effects.
- Building Materials:** Hemp hurds (woody core) mix with lime to create hempcrete—a lightweight, insulating concrete for eco-homes. Fire/rot-resistant and carbon-negative, it suits sustainable construction in hilly areas like Himachal.
- Pharmaceuticals and Health:** Low-THC extracts produce CBD for medicines, pain relief, and Ayurvedic products. Himachal's universities are developing Himalayan-adapted varieties for pharma exports.
- Other Industrial Uses:** Paper/packaging (faster-growing than trees) and Animal bedding,

## Industrial Hemp as driver of sustainable growth

- a. **Reducing Crop Losses:** Hemp thrives in marginal, sloped lands unsuitable for traditional crops like fruits or grains, minimizing wildlife damage (e.g., from monkeys, wild boars) that plague Himachal farmers. Its fast growth (3-4 months) and resilience to poor soils/pests allow multiple harvests yearly, stabilizing rural incomes amid climate variability.
- b. **Replacing Illicit Trade:** Wild cannabis, once fuelling black markets in Kullu-Mandi-Chamba, gets regulated (THC <0.3%) to create legal revenue streams. Projections: ₹1,000-2,000 crore annually from cultivation/processing, diverting youth from drugs to jobs in farming, factories, and exports—boosting state exchequer and curbing smuggling.
- c. **Climate Suitability:** Needs 50% less water than cotton, no pesticides, and grows naturally in Himalayan conditions. Pilot projects with Palampur/Nauni universities develop low-THC, high-yield seeds, making it ideal for rainfed areas facing erratic monsoons and warming trends.
- d. **Scaling via 'Hemp-Hub'**- Jobs: 10,000+ direct (farming, processing)  
- indirect in textiles, pharma units.
- e. **Exports:** Hempcrete, fabrics, CBD to global markets (EU, US demand rising).
- f. **Green Manufacturing:** Carbon-negative products (hempcrete sequesters CO<sub>2</sub>); aligns with Atmanirbhar Bharat, SDG-8/9.

This transforms 'weed' into wealth, fostering self-reliance by 2027 for farmers and youth.

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## Security and Defence

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### 33. India's tryst with Terror

**Context:** India stands at a critical juncture in global affairs, increasingly side-lined despite its diplomatic prowess.

India is staying out of global conflicts, watching from the side-lines instead of actively helping resolve them. This is especially true for peace issues in West Asia (Middle East), Europe, and the Indo-Pacific region. This approach is rare for India as it has never been so passive in the past.

#### **Surrounded by Hostility**

It is not unknown that South Asian countries are facing troubled times in terms of peace and stability, with Afghanistan and Nepal being the most affected. India's neighbours from Myanmar to Maldives are slipping away from India's influence.

#### **Pakistan and Bangladesh**

India has to contend with two openly hostile neighbours on its West and East i.e. Pakistan and Bangladesh.

Pakistan's threat to India is rising steadily, with more voices there turning against India. The situation worsens due to Pakistan's 27th Constitutional Amendment Bill, recently approved by a joint parliamentary committee, which shifts power further toward the military over civilians.

Military dictatorships in Pakistan, as elsewhere, have traditionally proved to be extremely hostile to a democratic India, as is known that military dictators tend to be short sighted. Concentration of power encourages strategic adventurism. This, in turn, increases the chances of miscalculation in crises. Also, and in keeping with the general trend among military regimes, there is likely to be a tendency to turn local conflicts into spheres of proxy competition and inter-state confrontation. Hence, prospects of a lasting peace with Pakistan are unlikely.

India's Pakistan problem is compounded by the fact that the interim government in Bangladesh to India's east, is proving unfriendly, if not openly hostile. Bangladesh is currently displaying a willingness to establish warmer relations with Pakistan, and brutal killing of a Hindu youth in Bangladesh only exacerbates this problem.

Hence, a mixture of ideological posturing and military governance on India's western and eastern flanks has raised diplomatic temperatures across the region.

## GROUND ZERO

### THE DAY AFTER

The morning after the blast near Red Fort, the air around Old Delhi still carried an echo of the sound, of fear and of disbelief. **TOI's Ishita Jairath** visited three key points on Tuesday to gauge the mood Photos: Anushka Kogta

**TOWN HALL & KUCHA MAHAJANI**  
Didn't hear the blast, but fear of what comes next



> Beyond Gurdwara Sis Ganj, near Town Hall, the pulse of Chandni Chowk beat faintly again. Shops were open, hawkers calling softly, visitors trickling in. Even the gold lanes of Kucha Mahajani, home to Delhi's jewellery trade, had reopened — but without sparkle

> "We didn't hear the blast, but news travelled instantly," said Vishnu Sharma, owner of a shop there. "Everyone panicked. No one was thinking about sales."

> The scent of incense and frying jalebis slowly returned, mixing with unease. Chandni Chowk, a place that has seen centuries of upheaval, was open again — but its laughter was missing



**JAIN MANDIR**  
Fear closest to epicentre

> Approaching Jain Mandir, the first thing one noticed was the barricades — alive with security personnel and curious onlookers. The usual stream of devotees and shoppers had been replaced by those filming the scene on their phones, standing on bollards along the pedestrianised track to get a closer look

> Many shops in Lajpat Rai Market, Ghadi Market and the Camera Market remained shuttered. Only the nearby Gauri Shankar temple had opened, with a handful of devotees stepping

**BHAGIRATH PALACE**  
Between shock and solidarity



> Just 200 metres from Jain Mandir, Bhagirath Palace — a dense maze of electrical and medicine shops — had reopened, but not recovered. "It's empty, can't you see?" said Puneet, a shop owner. The blast had shaken the old buildings and older nerves. "The tremors ran through the whole market — from SBI lane to Gurdwara Sis Ganj. It felt like an earthquake," said Ajay Sharma. "We shut our shops within minutes. Even now, everyone's trying to act normal, but fear sits quietly inside."

> Across the lane, the grief was raw — one of their own, Amar Kataria of DV Medicos, had been killed. "It was terrifying to watch, and even worse to realise a friend was among the victims," said Ashish Grover, secretary, Delhi Drugs Traders Association

in quietly

> "The fear here is still the strongest," said Kuldeep, a shop owner in Camera Market whose store stayed closed on Tuesday. "I still remember 6.55 pm — people started running; we thought the roof might collapse. Let's see, for a week people won't return. Anything can happen now."

## Urban Terror

Urban terror refers to terrorist attacks planned and executed in densely populated cities to maximize fear, casualties, and disruption. It targets civilians in public spaces like markets, transport hubs, or landmarks using bombs, shootings, or vehicles.

Urban Terror which had taken a back seat since Mumbai attack of 2008 has resurfaced, posing graver threats to India.

## Recent attacks:

A new terror group of doctors from Al-Falah University (Faridabad) was operating from J&K to Delhi. This group was inspired by 1992 Babri Masjid demolition. Unlike past attacks, this group represents anger, frustration against the nation state, these people also were the brightest in the community, which comes as a rude shock because it also questions the education system of the country.

## What is worrisome?

- Investigations show this terror group is 100% local Indian recruits—no outsiders involved. They used secret encrypted apps (like Telegram or Signal) for:
  - Indoctrination: Brainwashing new members with radical ideas.
  - Coordination: Planning attacks and meetings without detection.
  - Funds: Moving money secretly through digital wallets or hawala.

- Logistics: Arranging weapons, explosives, hideouts, and travel.

This makes it harder for agencies to track, as everything stayed hidden online.

- Religious terror lives on among top community members. Which hints at education system's inability to provide secular education to students.
- Doctors and academics in the terror network collected money by pretending to run social or charity events. This hid their real purpose of funding attacks. Which diverts attention to not only regulate funding of charities but also to monitor their intentions.

India faces growing external threats from hostile neighbours and regional turmoil, risking the spread of religious extremism. While India's tradition of religious tolerance offers resilience, constant vigilance remains essential to prevent deterioration and safeguard national security.

## 34. Surveillance Apps in welfare, Snake oil for Accountability

**Context:** Digital tools in welfare programs track attendance, stop fraud, and enforce discipline. They seem like quick fixes for old issues like absenteeism and corruption. But they shift focus from actual work to just meeting digital rules hence showing that surveillance apps have their own limitations.

### Surveillance Apps as tools of accountability

- Popularity Drivers:** Digital tools gained traction as perceived quick fixes for absenteeism, corruption, and delays in govt jobs. Governments favoured them for easy dashboards showing "numbers," creating an illusion of control without fixing root causes like poor work culture.
- Shift in Priorities:** Compliance over Quality: Tools made marking attendance the main goal, side-lining actual work output. Workers focused on "checking in" via apps, not delivering services—turning accountability into a box-ticking exercise.
- Missing Motivation Efforts:** No parallel push for intrinsic motivation or behaviour change among staff. Instead of training, incentives, or cultural shifts, reliance on surveillance apps forced compliance but bred resentment and gaming the system (e.g., proxy attendance).

### Impacts

- Real Impacts of Digital Tools:** Digital monitoring promised better welfare delivery but created new problems. Here's what actually happened:
- Fraud Evolved, Didn't End:** People bypassed apps by uploading old or fake photos instead of signatures. Fraud persisted—just smarter and digital.
- Excluded the Needy:** Biometrics and apps blocked genuine users like the elderly, disabled, or those without phones/internet. The most vulnerable lost benefits.
- Burdened Frontline Staff:** Workers wasted hours fixing app glitches, geo-tags, or slow connections. Real tasks took a backseat to "proving" presence; many got warnings for tech errors.
- Presence is not Performance:** Tools tracked bodies, not results. Attendance looked good on

dashboards, but work quality stayed poor—or even dropped over time.

- f. **Eroded Trust and Freedom:** Constant surveillance treated staff like criminals, killing motivation and flexibility to handle real field issues.
- g. **New Corruption and Delays:** Systems caused queues, "biometric failure" excuses for shortcuts, and privacy leaks from shared photos. Tech added fresh inefficiencies.

## Way Forward

- a. **Shift to Responsibility:** Use tools for basic checks, but build workers' own sense of public duty.
- b. **Avoid Tech Worship:** Don't treat digital fixes as magic—use sparingly to support, not control, work.
- c. **Empower Sincere Staff:** Learn from dedicated nurses/teachers; ask what helps them succeed.
- d. **Honest Reviews:** Spot errors/exclusions? Pause, study, redesign or scrap failing systems.
- e. **Protect Vulnerable:** Cut benefit denials, delays, corruption, and privacy leaks from apps.
- f. **Resist Tech Lobby:** Question profits for companies from surveillance; avoid ignoring harms.

Surveillance apps in welfare promise efficiency but breed exclusion, fraud, and demotivation, tracking compliance over real results. True accountability demands trust, responsibility, and supportive systems—not digital control. Without honest reforms and caution against tech lobbies, these tools stay mere snake oil.

## 35. INSV Kaudinya

In News: INSV Kaudinya was in News for its maiden overseas voyage.

### About INSV Kaundinya

- It is a stitched ship which is inspired by a fifth-century vessel shown in Ajanta cave paintings.
- It is named after the legendary mariner Kaundinya, who is believed to have sailed from India to Southeast Asia in ancient times.
- It has been built using traditional stitching techniques instead of metal nails. Artisans from Kerala used coconut fibre, coir rope, wooden joinery, natural resins, and cotton sails.
- It is a joint initiative of the Indian Navy, Ministry of Culture, and Hodi Innovations.

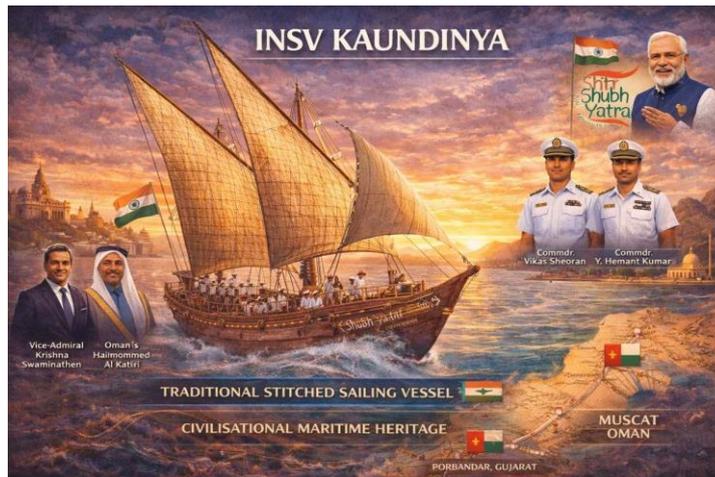
It features symbolic motifs like

- Gandabherunda (mythical two-headed eagle) symbol of the Kadamba dynasty and the Sun
- The bow carries a Simha Yali
- Harappan-style stone anchor on the deck

**Significance:** INSV Kaundinya showcases India's ancient maritime traditions. It reflects India's historic role in trade, cultural exchange, and modern maritime diplomacy

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## Science and Technology

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### 36. How are we protecting astronauts from deadly space debris?

**Context:** Millions of naturally occurring Micrometeoroids and Orbital Debris (MMOD) orbit the earth, posing a constant threat to all spacecraft and space stations. Recently, space junk grabbed worldwide notice when a piece hit China's Shenzhou-20 spacecraft. It caused a small crack in the return capsule's window, making it unsafe for the crew to use.

#### Space debris

Orbital debris consists of human-made objects in the Earth's orbit that no longer serve any useful purpose. All orbital debris originated primarily from exploded rocket stages, satellites, accidental collisions and intentional anti-satellite weapon tests.

#### What is MMOD?

- Micrometeoroids are typically extremely small, with sizes ranging from a few micrometres (a millionth of a meter) — the approximate size of a grain of dust — to up to about two millimetres.
- Each weigh less than a dried grape. Most of them (about 80 to 90%) originate from collisions between asteroids in the Asteroid belt (between Mars and Jupiter) with a small portion coming from comets. They also travel at extremely high velocities (about 11 to 72 km/s).
- With increase in density of space debris, there could be a theoretical scenario wherein collisions between them may create a cascade of further collisions, eventually making space travel impossible, a phenomenon known as the Kessler Syndrome.

#### Distribution of MMOD in Space

- Orbital debris is mostly concentrated in a “shell” around the Earth in **Low Earth Orbit (LEO)** ranging from about 200 km up to 2,000 km altitude. In contrast, micrometeoroids exist everywhere in space, but due to the Earth's gravity pull their distribution is slightly higher near our planet.
- There are hundreds of millions of pieces of orbital debris in the LEO — an estimated 34,000 objects larger than 10 cm (and are accurately tracked) and over 128 million pieces greater than 1 mm in size. The micrometeoroids in Earth's orbital environment are effectively uncountable and they deliver billions of impacts to orbiting spacecraft's annually.

#### How are space systems designed for MMOD impact?

- The risk of being hit by MMOD in the LEO is not uniform; it is highly directional. The face of the spacecraft in the direction of travel experiences the maximum overall hazard because the debris collides directly with the highest relative speed.
- Due to very high velocity of the debris, even tiny fragments carry enough kinetic energy to cause catastrophic failure or critical damage to on-board systems.

How are protected satellites from MMOD?

## Key Protection Strategies

- Whipple Shields: Dual-layer design with outer "bumper" that breaks high-speed debris into fragments; inner "rear wall" absorbs dispersed energy (like waves on tetrapod's).
- Debris Avoidance: Track objects larger than 10 cm; execute thruster manoeuvres to shift orbit and dodge collisions.
- Core Principle: Shields handle small debris via fragmentation; manoeuvres avoid larger, trackable threats.

## How is Gaganyaan crew protected?

- The main difference in Gaganyaan compared to other ongoing human space missions is that it is a standalone mission as there is no space station where the orbital module can dock and seek help in case of any exigency during the orbital phase.
- The mission lasts less than a week, so the chance of hitting tracked space debris is very low. Still, small untracked high-speed fragments require protective shields.
- The MMOD protection scheme for Gaganyaan is based on internationally accepted standards, such as employing passive defences like Whipple shields. To ensure that these shields meet stringent human-rating requirements, ISRO uses specialised facilities and software tools for design and validation.

The expanding human era beyond the Moon hinges on global cooperation to tackle debris risks through strict zero-junk policies. This ensures a safe, sustainable orbital path for all future missions, preventing the MMOD threat from derailing space progress.

## 37. DHRUV64 Microprocessor

In News: DHRUV64, India's first home-grown 1.0 GHz, 64-bit dual-core microprocessor, strengthens the indigenous processor pipeline.



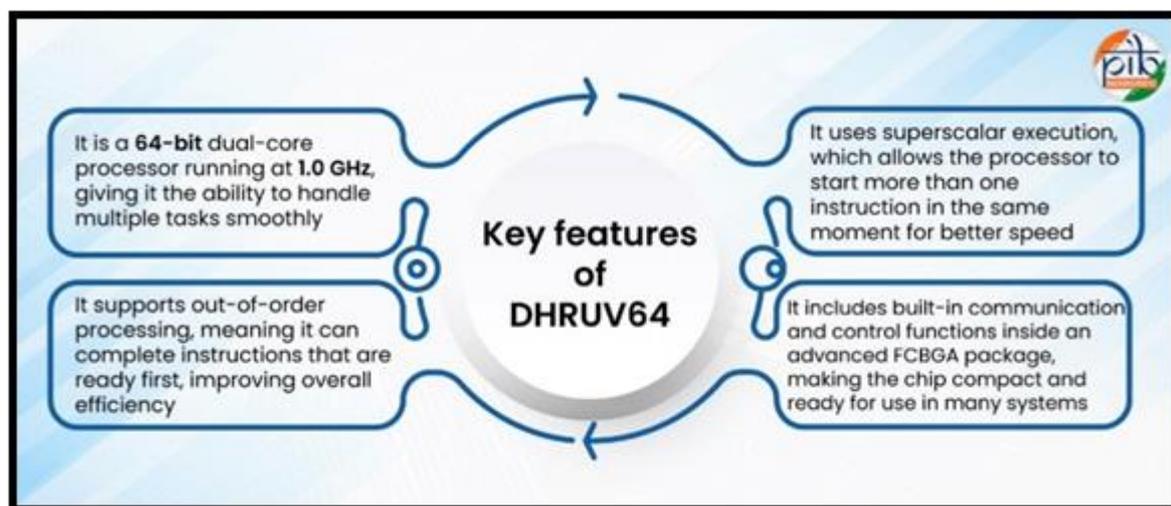
### About DHRUV64

India has achieved a significant milestone in its semiconductor journey with the launch of DHRUV64. It is a fully indigenous microprocessor developed by the Centre for Development of Advanced Computing (C-DAC) under the Microprocessor Development Programme (MDP).

- DHRUV64 provides the nation a

reliable, home-grown processor technology. It is capable of supporting strategic and commercial applications. It marks a major advancement in India's pursuit of self-reliance in advanced chip design.

- DHRUV64 is built with modern architectural features. It delivers higher efficiency, enhanced multitasking capability and improved reliability. Its advanced design enables seamless integration with a wide range of external hardware systems. The processor's modern fabrication leverages technologies used for high-performance chips. This makes DHRUV64 suitable for sectors such as 5G infrastructure, automotive systems, consumer electronics, industrial automation and the Internet of Things (IoT).



## Significance of DHRUV64

India consumes around 20% of all the microprocessors manufactured globally. The development of DHRUV64 provides India's large talent base with a fully modern processor platform for advancement of semiconductor ecosystem in India.

## Significance

- a. Self-Reliance Milestone: Reduces import dependence on foreign chips (e.g., ARM); first 1 GHz 64-bit home-grown processor after THEJAS32/64 prototypes.
- b. Tech Specs: 1 GHz clock, superscalar/out-of-order execution, MMU for Linux/Zephyr/Ferrets, advanced branch prediction, FCBGA packaging for compact integration.
- c. Applications: 5G telecom, automotive, IoT, industrial automation, consumer electronics—strategic for secure, customized systems.
- d. Broader Impact: Boosts Digital India RISC-V ecosystem; next phases target DHANUSH64 SoC variants. Aligns with Atmanirbhar Bharat in semiconductors (GS3: S&T)

## Rollout of DHRUV64 and India's Digital India RISC-V (DIR-V) Progress

The Government of India launched the Digital India RISC-V (DIR-V) Programme to advance the vision of Aatmanirbhar Bharat. It aims to establish India as a global hub for Electronics System Design and Manufacturing (ESDM). The initiative develops a complete portfolio of RISC-V-based microprocessors.

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## History and Culture

### 38. 4<sup>th</sup> Kashi-Tamil Sangamam

**In News:** Kashi-Tamil Sangamam (KTS 4.0) The fourth edition was held in Varanasi from December 2 to 15, 2025

Theme 2025: “Let Us Learn Tamil – Tamil Karkalam”, placing Tamil language learning and linguistic unity at the heart of the Sangamam.



#### About Kashi- Tamil Sangamam

- Launched in 2022 during Azadi Ka Amrit Mahotsav, the Sangamam reaffirms India's deep civilisational heritage and celebrates the longstanding movement of ideas, spirituality and culture between the two regions.
- Since 2022, Sangamam editions have expanded, KTS 1.0 (foundation), KTS 2.0 (larger public participation, real-time Tamil translation, high footfall exhibitions), and KTS 3.0 (knowledge-centred focus on Sage Agastya, NEP 2020-aligned sessions).
- Anchored in Ek Bharat Shreshtha Bharat and held under the Ministry of Education, the initiative is supported by IIT Madras and Banaras Hindu University as knowledge partners, with active participation from ten Union ministries, including Railways, Culture, Tourism, Textiles and Youth Affairs & Sports, along with the Government of Uttar Pradesh.

## Key objectives include:

- Highlighting the literary, spiritual, and artistic connections between Tamil Nadu and Kashi.
- Encouraging academic and research-based interactions between scholars from both regions.
- Showcasing traditional art forms, crafts, and cuisine to enhance cultural appreciation.
- Providing a platform for Tamil students to explore the historical significance of Kashi and its ancient educational institutions.

## Cultural Significance

- Spiritual Links:** Highlights centuries-old pilgrimages by Tamil saints (e.g., Adi Shankaracharya, Appar) to Kashi Vishwanath; Tamil Shaivite traditions in temples like Kumaraswamy Mutt at Hanuman Ghat.
- Knowledge Exchange:** Revives shared heritage—Thirukkural translations, Tamil inscriptions in Kashi, reciprocal influences between North-South learning centers.
- National Integration:** Govt initiative (launched 2022) fosters cultural oneness amid regional identities; events include youth exchanges, Tamil classes in Kashi, artisan showcases.
- Modern Relevance:** Editions like 4.0 (Dec 2025) tie to Mahakumbh, Ram Lalla Pran Pratishtha—promoting Ek Bharat Shreshtha Bharat vision.

Kashi Tamil Sangamam 4.0 unites Kashi's spiritual wisdom with Tamil culture through festivals, talks, and exchanges. It builds North-South bonds and national pride ahead of Mahakumbh.

## 39. India and the Netherlands Sign Historic MoU to Develop National Maritime Heritage Complex at Lothal

In News: In a significant step towards preserving and showcasing India's ancient seafaring legacy on a global platform, India and the Netherlands have formally signed a Memorandum of Understanding (MoU) to strengthen cooperation in maritime heritage.

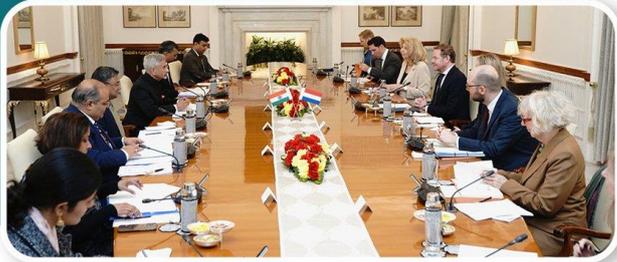
The agreement marks a major milestone in the development of the ambitious National Maritime Heritage Complex at Lothal in Gujarat, a site globally recognised for its role in the Indus Valley Civilisation's maritime trade network over 4,500 years ago.

### India-Netherland MOU

- This agreement brings together two prestigious institutions—the National Maritime Heritage Complex, being developed under India's Ministry of Ports, Shipping and Waterways, and the world-renowned National Maritime Museum in Amsterdam—creating a powerful international partnership aimed at heritage preservation, research, and public education.
- The collaboration between India and the Netherlands reflects a shared appreciation of maritime history and its role in shaping global trade, culture, and diplomacy.
- The collaboration between India and the Netherlands reflects a shared appreciation of maritime history and its role in shaping global trade, culture, and diplomacy.
- This partnership is expected to elevate the National Maritime Heritage Complex to international standards, positioning it among the world's leading maritime cultural institutions.

## India-Netherlands *Join Hands to Take* India's Maritime Legacy Global

GOVERNMENT OF INDIA  
MINISTRY OF PORTS, SHIPPING  
AND WATERWAYS



**Significance of the MoU:**

- ▶ Strengthen global collaboration on maritime heritage, museum design, curation and conservation through partnership between NMHC Lothal and the National Maritime Museum, Amsterdam
- ▶ Position the National Maritime Heritage Complex (NMHC) as a world-class cultural destination, showcasing India's 4,500-year-old maritime legacy on the global stage.
- ▶ Enable knowledge exchange, joint exhibitions, research projects and cultural programs, enhancing visitor experience, education and public outreach.
- ▶ Boost inclusive education and maritime tourism, ensuring wider access for students, local communities and underprivileged groups
- ▶ Deepens India-Netherlands cultural and people-to-people ties, while complementing broader cooperation in green shipping, port development and shipbuilding



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## 40. Santhali Language

In News: The President of India highlighted the role of language and literature in binding communities during the centenary celebrations of OI Script and Santhali Language Day.



### About Santhali Language:

- Santhali is an ancient Austroasiatic tribal language, primarily spoken by the Santhal community in India (Jharkhand, West Bengal, Odisha, Bihar) and neighboring countries
- In 1925, Pandit Raghunath Murmu created the OI Chiki script. Since then, this script has become a powerful symbol of the Santhal identity.

- President also released the Constitution of India in Santhali language, written in the Ol Chiki script, on the birth anniversary of former Prime Minister of India Atal Bihari Vajpayee on December 25.

## Significance of language

Language is the backbone of a country's culture and history, carrying identity, traditions, and collective memory across generations.

- Preserves Heritage:** It encodes myths, epics, folklore, and rituals—like Tamil Sangam literature preserving Dravidian wisdom for 2,000+ years, linking to Kashi's spiritual bonds.
- Shapes Identity:** Defines "who we are"—e.g., Tamil as "Tamil Thai" (mother), fostering pride and unity amid diversity; Sanskrit-Tamil exchanges unified ancient Bharat.
- Transmits Knowledge:** Historical texts (Thirukkural ethics, Bhakti hymns) pass philosophy, science, governance; languages evolve but anchor civilizational continuity.
- Drives Unity/Diversity:** Bridges regions while celebrating pluralism; multilingualism strengthens federalism in India (22 official languages).

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