

DAILY CURRENT AFFAIRS (DCA)

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MAPPING THE APPLICATION OF ARTIFICIAL INTELLIGENCE IN TRADITIONAL MEDICINE

In Context

- India, with its rich Ayush systems (**Ayurveda, Siddha, Unani, Sowa Rigpa, and Homoeopathy**), has recently been recognized by the World Health Organization (WHO) for pioneering the integration of Artificial Intelligence (AI) into these systems.

What is Traditional Medicine?

- Traditional medicine encompasses the knowledge, skills, and practices based on indigenous theories and experiences, often involving plant, animal, and mineral-based remedies, spiritual therapies, and manual techniques to maintain health or treat illness.

Role of AI in Traditional Medicine

- Enhancing Diagnostics:** AI-powered systems combine traditional diagnostic methods (pulse reading, tongue analysis, Prakriti assessment) with machine learning and deep neural networks, improving accuracy and enabling personalized care.
- Ayurgenomics:** AI merges genomic data with Ayurvedic principles to identify disease risk markers and tailor health recommendations, advancing personalized medicine.
- Drug Discovery & Validation:** AI analyzes the molecular basis of herbal formulations, supports drug repurposing, and aids in comparative studies across traditional systems.
- Knowledge Preservation:** AI tools facilitate the cataloguing and semantic analysis of ancient texts, making therapeutic knowledge more accessible and protecting against biopiracy.
- Health System Management:** AI-enabled digital records and hospital management systems optimize data collection, patient care, and research in traditional medicine.

India's Initiatives to Facilitate AI in Traditional Medicine

- Ayush Grid:** A digital health platform underpinning citizen-centric initiatives and supporting the digital transformation of Ayush systems.
- AI-Driven Portals:** Platforms like the SAHI portal, NAMASTE portal, and Ayush Research Portal enable online consultations, research, and digital literacy among practitioners.

- Traditional Knowledge Digital Library (TKDL):** A globally recognized digital repository preserving and protecting India's indigenous medical heritage.
- Policy Leadership:** India proposed and contributed to WHO's first global roadmap for AI in traditional medicine, reflecting its commitment to "AI for All".

Challenges

- Data Quality & Standardization:** Lack of large, reliable, and standardized datasets in traditional medicine hampers effective AI training and validation.
- Digital Gaps:** Limited digital infrastructure and low digital literacy among practitioners, especially in rural areas, restrict AI adoption.
- Biopiracy & Data Sovereignty:** Risks of misappropriation of indigenous knowledge and resources without consent.
 - Ensuring data privacy, security, and ethical use of AI in sensitive health contexts.
- Human Touch:** AI cannot fully replicate the nuanced, empathetic care provided by traditional practitioners.

Way Ahead

- Strengthen Data Governance:** Build robust frameworks to ensure data privacy, protect indigenous rights, and standardize data collection.
- Capacity Building:** Invest in digital literacy and infrastructure to bridge the digital divide.
- Global Collaboration:** Foster international cooperation for research, policy, and ethical standards.
- Evidence-Based Integration:** Continue validating traditional practices through scientific research and AI, ensuring safe, effective, and accessible healthcare for all.

Source: PIB

CENTRE MOVES SC TO REVIEW RULING ON IPS DEPUTATION IN CAPFS

Context

- The Union Government has filed a review petition against the Supreme Court's ruling directing a **"progressive reduction"** in the **deputation of Indian Police Service (IPS) officers to the Central Armed Police Forces (CAPFs)**.

Background

- In 2015, Group A officers of the CAPFs approached the court seeking Non Functional Financial Upgradation (NFFU), cadre review, restructuring, and changes to recruitment rules to eliminate IPS deputation and enable internal promotions to Senior Administrative Grade (SAG).
- In the case of **Sanjay Prakash & Others vs Union of India, 2025**, the Supreme Court ruled that:
 - ♦ Group A officers of CAPFs are to be treated as “Organised Services” for all purposes.
 - ♦ The deputation of IPS officers to SAG posts i.e., up to the rank of Inspector General (IG), in CAPFs should be progressively reduced within an outer limit of two years.
- **Purpose of the Ruling:** The decision aimed to ensure fair career progression for CAPF cadre officers and to curb the longstanding dominance of deputed IPS officers within CAPFs.

Current Organisational Setup of CAPF

- The CAPFs include the Border Security Force, Central Industrial Security Force, Central Reserve Police Force, Sashastra Seema Bal, and Indo-Tibetan Border Police.
- The Ministry of Home Affairs is the cadre-controlling authority for both IPS and CAPF officers.
 - ♦ The Centre had mentioned that the deputation of IPS officers was necessary to maintain the operational readiness of the forces and to ensure Centre-State coordination.
- **Reserved Seats:** At present, 20% of Deputy Inspector General (DIG) posts and 50% of Inspector General (IG) posts in CAPFs are reserved for IPS officers.
 - ♦ If implemented, the judgment would significantly curtail IPS dominance in the CAPFs.

Concerns of IPS Appointments in CAPFs

- **Stagnation in Career Progression:** Due to high reservation of senior ranks for IPS officers, CAPF cadre officers face limited promotional opportunities.
 - ♦ On average, a CAPF officer takes 25 years to reach the rank of Commandant, a position they should ideally achieve in 13 years.

- **Violation of Organisational Integrity:** The continued deputation of IPS officers hampers institutional autonomy and the long-term professionalization of CAPFs as elite forces.
- **Legal and Administrative Implications:** The Supreme Court's recognition of CAPF Group A services as Organised Services implies the government must carry out cadre reviews, amend recruitment rules, and grant Non-Functional Financial Upgradation (NFFU).
 - ♦ Continuing IPS appointments without structural changes is both administratively inconsistent and legally questionable.
- **Violation of Natural Justice and Equality:** Articles 14 (Right to Equality) and Articles 16 (Equality of Opportunity in Public Employment) come into play, as CAPF cadre officers are denied equal promotional avenues compared to their IPS counterparts.

Policy Recommendations

- **Cadre Review and Structural Reforms:** Conduct a comprehensive cadre review of all CAPFs to restructure recruitment rules to prioritize internal career progression.
- **Transparent Promotion Policies:** Establish clear, time-bound, and uniform promotion benchmarks for CAPF officers across all forces.
- **Dedicated Leadership Training for CAPF Officers:** Institutionalize mid-career training programmes (like LBSNAA or NPA) tailored for CAPF officers to prepare them for leadership roles traditionally occupied by IPS officers.
 - ♦ Encourage cross-postings and exposure to Centre-State coordination roles to build broader administrative capability within CAPFs.
- **Parliamentary Oversight and Policy Reform:** Place CAPF cadre policy reform under parliamentary scrutiny or a standing committee.
 - ♦ Outline future plans to professionalize CAPFs and reduce dependency on deputation.

Source: TH

UGC'S ANTI-RAGGING SYSTEM HAS UTTERLY FAILED: DELHI HC

Context

- The Delhi High Court has signalled that it may initiate a suo motu public interest litigation (PIL) petition to address the recent surge in

ragging incidents and student deaths across higher educational institutions.

- ♦ The development comes after the Supreme Court, this year, expressed **concern about the existing UGC regulations**.

Supreme Court Observation in 2025

- SC noted that UGC's anti-ragging regulations remain mostly on paper.
- Institutions only follow formalities — like affidavits and posters — without real action.
- It directed the formation of a National Task Force on student mental health.

Ragging in India

- **According to the 2022 National Crime Records Bureau (NCRB) report:** Students accounted for **7.6%** — or 13,044 — of all deaths by suicide in India, **surpassing the combined toll among farmers and agricultural labourers**.
- Of the total student deaths, 13.5% were reported in Maharashtra followed by 10.9% in Tamil Nadu, 10.3% in Madhya Pradesh and 8.1% in Uttar Pradesh.

Government Steps to Curb Ragging

- In a landmark verdict, the **Vishwa Jagriti Mission v. Central Government & Others, 2001**, the Supreme Court made ragging a punishable offense and mandated strict institutional measures.
- **Raghavan Committee in 2007** was constituted by the Supreme Court of India to address the menace of ragging in educational institutions.
 - ♦ The committee recommended treating ragging as a punishable criminal offense under the **Indian Penal Code (IPC)**.
- **Supreme Court Guidelines:** In **2009**, the Supreme Court of India ordered the implementation of a ragging prevention program. The program included the following steps:
 - ♦ **Anti-ragging helpline:** A toll-free helpline or call center to be set up.
 - ♦ **Regulations:** Directed the **University Grants Commission (UGC)** to frame regulations to curb ragging in higher education institutions.
 - ♦ **Anti-ragging committee:** Mandated the UGC to constitute an Anti-Ragging Committee and an Anti-Ragging Squad.
- **National Ragging Prevention Programme (NRPP)**, a data-driven mechanism, in 2009 under the UGC supervision.

- ♦ **Features:** A 24x7 dedicated student helpline, mandatory online affidavits to raise awareness, mechanisms to flag non-compliant institutions, and a non-governmental agency for independent monitoring.

- ♦ It allowed UGC to withdraw funding from non-compliant institutions.

- **Role of NGOs:** Organizations like **Society Against Violence in Education (SAVE)** actively track cases and push for legal action against institutions.

Reasons for Persisting Ragging

- **Deep-Rooted Cultural Mindset:** Ragging is often seen as a “rite of passage” or “initiation ritual” to foster bonding.
 - ♦ Many seniors justify ragging because they themselves were ragged.
- **Lack of Stringent Implementation:** The Supreme Court issued anti-ragging guidelines **15 years ago**, but they have largely remained on paper.
 - ♦ UGC regulations exist but are poorly implemented.
 - ♦ Institutions often downplay or suppress complaints to protect their reputation.
- **Lack of Orientation and Awareness:** New students often lack knowledge of their rights and redressal mechanisms.
 - ♦ Orientation programmes are either ineffective or absent in highlighting anti-ragging policies.
- **Unaccountable System:** Victims often struggle with an ad hoc, non-transparent process where complaints are not adequately addressed.
- **Institutional Inaction:** Despite the mandate for Anti-Ragging Squads and surprise inspections, the UGC does not maintain any record of actions taken.
- **Low Compliance:** UGC guidelines require students to submit anti-ragging affidavits annually, yet RTI data shows that only **4.49%** of students have done so in the past decade.

Way Ahead

- **Strict Enforcement of Guidelines:** Authorities must ensure full implementation of Supreme Court and UGC regulations, holding institutions accountable for lapses.
- **Technology-Based Solutions:** Expand CCTV surveillance in campuses to deter ragging incidents.

- ♦ Secure online portals and ID-based dashboards to enable anonymous reporting by victims.
- **Legal Clarity:** There is need for amendments to laws to ensure strict penalization of offenders, including faculty or management complicit in ignoring complaints.

Source: TH

WHO IS QUALIFIED AS 'ORDINARILY RESIDENT'?

Context

- The Election Commission's Special Intensive Revision (SIR) of electoral rolls in Bihar has reignited debate over the eligibility of migrant workers as 'ordinarily resident' for voter registration.

Who is 'ordinarily resident'?

- The term "**ordinarily resident**" is defined and interpreted through the Representation of the People Act, 1950 (RP Act), under Section 19 and Section 20.
- **Section 19** of the RP Act requires that a person is 'ordinarily resident' in a constituency for inclusion in its electoral roll.
- **Section 20** provides the **meaning** of the term 'ordinarily resident'.
 - ♦ It specifies that mere ownership or **possession of a house does not make one ordinarily resident**.
 - ♦ However a person temporarily absent from their place of residence will still be considered ordinarily resident there.
 - ♦ Specific categories of individuals (e.g., armed forces, government officials posted outside India, constitutional office holders) are deemed to be ordinarily resident in their home constituency despite being physically away.
- **Registration of Electors Rules, 1960 (RER)** framed under the RP Act, governs the procedures for inclusion, exclusion, and corrections in electoral rolls.
 - ♦ The rules are executed by **Electoral Registration Officers** and supervise the application of the term "ordinarily resident."
- **The Gauhati High Court in the Manmohan Singh case (1999)**, indicated that the term

'ordinarily resident' shall mean a habitual resident of that place.

- ♦ It must be permanent in character and not temporary or casual. It must be a place where the person has the intention to dwell permanently.

Challenges for Migrant Workers

- India has a large migrant workforce, especially from poorer regions like Bihar, Uttar Pradesh, Odisha, Jharkhand, and Chhattisgarh.
- **The Periodic Labour Force Survey (2020-21)** estimates that around **11%** of Indians migrate for employment, which amounts to over **15 crore** people. Key Issues are;
 - ♦ **Temporary Nature of Migration:** Most labourers migrate for short-term work and live in makeshift homes or worksite camps without permanent addresses.
 - ♦ **Voter Identity and Registration Gaps:** Many migrants fail to register as voters in their place of work due to lack of documentation and mobility.
 - ♦ **Reluctance to Shift Voter Registration:** Migrants have stronger social and economic ties with their home villages or towns. They choose to vote where their families live and their properties exist.
 - ♦ **Disenfranchisement Risk:** Removal from rolls in the original constituency, combined with no registration at the new workplace, may leave many completely disenfranchised.

Way Ahead

- **Amendments in RP Act and RER:** Introduce special provisions for migrant workers, akin to those for service voters and NRIs.
- **Allow dual documentation** to maintain residence proof in the original place even while temporarily living elsewhere.
- **Use of Technology:** Use Aadhaar-linked electoral rolls to ensure;
 - ♦ One person, one vote (preventing multiple registrations),
 - ♦ Seamless transfer of voting rights across locations.
- **Alternative Voting Mechanisms:** Explore options like Postal ballots for migrants, Mobile polling stations at major work clusters, and Remote voting technologies piloted by the ECI.

Source: TH

GREEN REVOLUTION: ITS LEGACY AND INDIA'S STRATEGIC ROLE IN AGRICULTURAL R&D

Context

- India is facing both a responsibility and a historic opportunity — to repay the debt owed to regions that fueled India's food security, and to reimagine agriculture for a sustainable future.

About the Green Revolution

- The term '**Green Revolution**' was coined by *William S. Gaud*, then Administrator of the **United States Agency for International Development (USAID)**, in **1968**.
- It turned a famine-prone nation into a food-secure one, ushering in self-sufficiency in grain production and empowering millions of farmers.
- In India, the Green Revolution benefited **Punjab, Haryana, and western Uttar Pradesh** with its focus on *high-yielding rice and wheat varieties, irrigation expansion, and intensive chemical input*.

India's Agricultural Gains

Indian Scientists Behind Global Success

M.S. Swaminathan, Key architect of India's Green Revolution.

V.S. Mathur, B.S. Malik, Rajbir Yadav
HD Wheat series

E.A. Siddiq, V.P. Singh, and A.K. Singh
Basmati Breeding

Gurdev Singh Khush, IRRI's chief breeder behind IR 36 and IR 64.

Sanjaya Rajaram, Borlaug's successor at CIMMYT, bred India's top wheat varieties in the 1990s

- India's Green Revolution was catalyzed by **International Maize and Wheat Improvement Center (CIMMYT)** and **IRRI germplasm**. Varieties like *Kalyan Sona* and *Sonalika* (1967–68) came from CIMMYT breeding lines.
- Later, Indian institutions like the **Indian Agricultural Research Institute (IARI)** developed indigenous varieties pushing yields to **7 tonnes/hectare**.
- In rice, IARI and regional institutes released iconic varieties like *Swarna* (1982), *Samba Mahsuri* (1986), and *Pusa Basmati 1121* (2003).

- In **2024–25**, India exported **6.1 million tonnes of basmati rice worth \$5.94 billion**, over **90% from IARI-developed varieties**.

Do You Know?

- International Maize and Wheat Improvement Center (CIMMYT)** bred semi-dwarf wheat varieties like *Lerma Rojo 64A*, *Sonora 63*, and *Mayo 64*, which were first introduced in **India in 1964-65**.
- CIMMYT was funded heavily by the **United States Agency For International Development (USAID)**, and closely associated with **Norman Borlaug**.
 - USAID provided **\$83 million of its \$211 million grant revenue in 2024**.
 - CIMMYT has lost a major funder, with the **Trump administration shutting down USAID**.
- Norman Borlaug's** wheat enabled Indian farmers to achieve **4–4.5 tonnes/hectare**, up from 1–1.5 tonnes.
- International Rice Research Institute (IRRI)**'s rice varieties raised yields from 1–3 tonnes to **4.5 – 10 tonnes/hectare**, reducing crop duration to 110–130 days.

Green Revolution: Legacy & and Its Costs

- Continued Reliance on Global Research:** As of 2024–25, **6 of the top 10 wheat varieties** sown over **20 million hectares** in India were directly derived from **CIMMYT material**.
 - HD 2967* remains the only recent major indigenous variety.
- While northern states thrived, others — especially eastern and central India — remained underdeveloped. The excessive focus on procurement, subsidies, and irrigation for a narrow set of crops led to:
 - Soil nutrient depletion and water table collapse.
 - Stifled crop diversification and ecological imbalance.
 - Farmer dependency on input-intensive monocultures.

Policy Levers to Address the Imbalance

- Decentralized Procurement:** Expanding procurement beyond wheat and rice to include pulses, millets, and oilseeds from underserved regions like central India and the Northeast.

- **Agroecological Transition:** Supporting states to adopt regenerative agricultural practices and reduce chemical dependency.
- **Water-Smart Farming:** Incentivizing crops suited to local climates and water availability, rather than forcing uniform choices.
- **Income Diversification:** Promoting agro-processing, farm cooperatives, and access to rural credit to give farmers alternative revenue streams.
- **Regional Equity:** Diversifying procurement policies to include pulses, oilseeds, and millets from underrepresented regions.

India's Opportunity and Responsibility

- Despite its gains, **India contributed just \$0.8 million to CIMMYT and \$18.3 million to IRRI** in 2024. According to **Rajendra Singh Paroda**, former DG of ICAR, India should fund **strategic and collaborative research** in:
 - ♦ Heat and drought tolerance;
 - ♦ Nitrogen use efficiency;
 - ♦ Gene editing;
 - ♦ Artificial intelligence in breeding
- Recent initiatives like the **International Year of Millets**, **'Bringing Green Revolution in Eastern India'** and the **push for regenerative farming** offer encouraging signals — but scale and sincerity are key.

Source: IE

GST REFORMS: HOME MINISTER TO OPEN TALKS FOR CONSENSUS ON RATE RATIONALISATION

Context

- The Union Home Minister is set to lead consultations with states and key central ministries to push forward **long-pending reforms to the Goods and Services Tax (GST) structure**.

About

- **Past Deliberations:** In 2024, the Ministerial panel retained the **12% slab** despite detailed discussions, viewed as inconsistent with simplification goals.
 - ♦ **55th GST Council Meeting:** Deferred decision on lowering GST on health and life insurance premiums (currently at 18%).
 - ♦ Two Opposition states demanded a reduction to 5%.

- ♦ Proposal to change GST rates on 148 items postponed for further study.
- **Revenue Distribution (2023–24):**
 - ♦ **18% slab:** 70–75% of GST revenue.
 - ♦ **12% slab:** 5–6%.
 - ♦ **5% slab:** 6–8%.
 - ♦ **28% slab:** 13–15%.

Goods and Services Tax

- The GST was introduced in **2017** by the **101st Constitutional Amendment Act, 2016** as a comprehensive indirect tax for the entire country.



- It is a destination based tax on **consumption of goods and services**.
- It is levied at **all stages** right from manufacture up to final consumption.
 - ♦ **Only value addition** will be taxed and the burden of tax is to be borne by the final consumer.
- It accrues to the State or the Union Territory where the consumption takes place. It is of 3 types:
 - ♦ **Central GST (CGST):** Levied by the Center.
 - ♦ **State/Union Territory GST (SGST/UTGST):** Levied by States or UTs.
 - ♦ **Integrated GST (IGST):** Tax levied and collected by the Center on all inter-state supplies of goods and/or services.
 - The Center settles accounts with the States/UTs by transferring the SGST/

UTGST portion of IGST to the destination state where goods/services were consumed.

- **Four slabs for taxes for both goods and services:** 5%, 12%, 18%, and 28%.
 - ♦ Different tax slabs were introduced because daily necessities could not be subject to the same rate as luxury items.
- **A cess** is levied on the highest tax slab of 28% on luxury, sin and demerit goods.
 - ♦ The collection from the cess goes to a separate corpus called Compensation fund. It is used to make up for revenue loss suffered by the state due to GST rollout.
- **The GST Council** is a constitutional body **under Article 279A**.
 - ♦ It is a federal body comprising the Union Finance Minister as its Chairman and Finance Ministers of all States as members.
 - ♦ The GST Council members take almost all decisions on GST with consensus.
- **Exempted Items:** The GST applies to all goods other than alcoholic liquor for human consumption and five petroleum products (common for the Center and the States): petroleum crude, motor spirit (petrol), high speed diesel, natural gas, aviation turbine fuel.

Rate Rationalisation

- A key long-pending proposal is to eliminate the **12% slab to move toward a simplified three-rate structure**.
- **The 12% slab currently includes items** like packaged food (condensed milk, fruit juices), household goods (furniture, sewing machines), and medical supplies (diagnostic kits, bandages).
- **Items currently under the 12% slab would be shifted to either:**
 - ♦ 5% slab (e.g., basic food and household items),
 - ♦ or 18% slab (more revenue-generating items).
- This rationalisation aims to simplify GST structure, reduce classification disputes, and correct inverted duty structures.
- **Challenges:**
 - ♦ **Estimated revenue loss** of 70,000–80,000 crore if 12% slab is scrapped.
 - ♦ **Strong resistance from states** due to concerns over revenue losses and tax burden shifts.

Other Proposed Reforms:

- **Expand GST Base:** Include petroleum products, electricity, and real estate under GST to make it more comprehensive.
 - ♦ Broaden the base to reduce the need for higher rates and improve tax buoyancy.
- **Improve GST Compliance & Technology Use:** Further strengthen e-invoicing, e-way bills, and GSTN infrastructure.
 - ♦ Use AI and data analytics to detect tax evasion, fake invoices, and improve compliance monitoring.
- **Streamline Input Tax Credit (ITC) System:** Ensure timely and seamless flow of ITC to reduce working capital blockage for businesses.
 - ♦ Reduce complexity in ITC rules, make them more transparent and predictable.
- **Strengthen GST Council & Cooperative Federalism:** Enhance transparency and accountability in GST Council decisions.
 - ♦ Ensure regular meetings and address states' concerns proactively.

Way Ahead:

- A three-rate GST structure is still under consideration.
- The GoM on rate rationalisation had sought **more time to discuss the proposal** to tweak rates on as many as 148 items, which is expected to come up for discussion in the next meeting of the GST Council.
- The road ahead for GST, apart from reducing rates is also focused towards **bringing in more simplification** in the law, **ease the compliances** and, later on **bringing in more and more taxpayers** under the formal economy, so that the entire system runs on an auto-pilot mode.

Source: IE

ENVIRONMENT MINISTRY EXEMPTS 78% OF COAL PLANTS FROM INSTALLING FGD SYSTEMS

Context

- The Ministry of Environment, Forest and Climate Change (MoEFCC) has exempted nearly 78% of India's thermal power plants (TPPs) from installing Flue Gas Desulphurisation (FGD) systems.

What is Flue Gas Desulphurisation (FGD)?

- **FGD systems** are technologies used in coal-based thermal power plants to **remove SO₂** from

exhaust flue gases before they are released into the atmosphere.

- **Mechanism:** The most common FGD method involves using a **wet scrubber** that reacts with a **limestone slurry** to convert **SO₂** into **gypsum**.
- **Purpose:** Helps reduce acid rain, secondary particulate matter, and improves ambient air quality.

Categorisation of Thermal Power Plants (TPPs)

- **Category A:** Comprises **~11%** of India's **600 TPP units** and has to **mandatorily** install FGD systems by **December 30, 2027**.
 - ♦ These are located within **10 km radius** of the National Capital Region or are cities with a population of at least a million (2011 Census).
- **Category B:** Comprises another **11%** of TPP units and are located near Critically Polluted Areas (CPAs) or Non-Attainment Cities (NACs).
 - ♦ Installation of FGD is subject to approval by the **Expert Appraisal Committee (EAC)**.
 - ♦ **Deadline:** December 30, 2028, if required.
- **Category C:** It comprises the remaining **78%** of TPP units. They are fully exempted from installing FGD systems and are mostly located in regions outside pollution hotspots.

International Examples

- Countries like **China and the United States** have made FGDs **mandatory** across coal-based power plants.
- China achieved over **95% SO₂ removal efficiency** through nationwide installation of FGD systems.

Concerns

- **Health Impacts:** SO₂ is a **precursor to PM_{2.5}**, which can penetrate lungs and bloodstream. Chronic exposure is linked to asthma, heart disease, and premature death.
 - ♦ According to the Lancet Commission on Pollution and Health 2022, pollution-related deaths in India exceeded **2.3 million** annually.
- **Violation of Polluter Pays Principle:** Exempting TPPs from installing FGDs violates the environmental principle that polluters should bear the cost of pollution mitigation.
- **Undermines Pollution Targets:** India's Clean Air Programme and **COP26** commitments are weakened by this decision.
- **Air Pollution Dispersion:** Coal plants emit pollutants that travel up to **200 km** from the source.

- ♦ **Tall chimneys do not eliminate pollution** but disperse it into wider areas, impacting rural populations and neighboring states.

Way Ahead

- **Health-Cost Internalisation:** Use models like the Health Impact Assessment (HIA) to account for medical costs, productivity loss, and mortality.
- **Accelerate Renewable Energy Transition:** Shift focus towards cleaner sources like solar, wind, and biomass to reduce dependency on coal.
- **Pollution Control Mandates for All Categories:** Pollution is not limited by administrative categories; hence, uniform emission norms should be enforced.
- **Build FGD Installation Capacity:** Encourage Make in India initiatives to build indigenous capacity for FGD manufacturing and deployment.
- **Public Disclosure and Monitoring:** Real-time emissions data of SO₂, PM_{2.5}, and other pollutants should be made publicly available for accountability.

Concluding remarks

- Given the transboundary nature of pollution, and the growing burden of air-pollution-induced diseases, it is essential that India adopts a science-backed, health-centric, and equitable pollution control policy.
- Environmental governance must be proactive, transparent, and aligned with both constitutional mandates under **Article 21** and India's global environmental commitments.

Source: TH

NEWS IN SHORT

NOMINATION TO RAJYA SABHA

In News

- The President of India has appointed four new individuals as nominated members of the Rajya Sabha.
 - ♦ The President nominated them on the recommendation of the **Council of Ministers (headed by the Prime Minister)**.

About Nomination to Rajya Sabha

- **Article 80 of the Constitution:** Out of the maximum 250 members in the Rajya Sabha, 12 are nominated by the President of India.

- ♦ The nominated members are chosen for their special knowledge or practical experience in areas such as literature, science, art, and social service.
- **Purpose:** The nomination system ensures that the Rajya Sabha benefits from the insights of eminent personalities who may not wish to contest elections but can contribute significantly to national discourse.
- **Term:** Nominated members serve for a six-year term, the same as elected members.
- **Powers and Rights:** Nominated members enjoy the same rights as other Rajya Sabha members, except they cannot vote in the election of the President of India.

Source: TH

JARAWA TRIBE

Context

- The upcoming **2027 Census** will include efforts to count the six main indigenous tribes of the Andaman and Nicobar Islands, including the Jarawa tribe.

Jarawas Tribes

- The Jarawa tribe is one of the **world's oldest surviving indigenous communities** and has traditionally lived as **nomadic hunter-gatherers** in the dense forests of the Middle and South Andaman Islands.
 - ♦ They were historically hostile to outsiders and resisted contact until the late **1990s**.
- They typically move in small bands of **40–50 people**, relying on forest and marine resources.

Census Data and Population Estimates

- **The 2011 Census** recorded **380 Jarawa individuals**, out of the total **28,530 Scheduled Tribe** population in the Andaman and Nicobar Islands.
- **Other ST tribes in the region include:** Andamanese, Nicobarese, Shompen, Onge, and Sentinelese.
 - ♦ **All except Nicobarese** are classified as **Particularly Vulnerable Tribal Groups (PVTGs)**.
- According to recent official estimates (2025), the Jarawa population has increased to **647**, which reflects improved health services and reduced mortality.

- **The PM-JANMAN scheme (Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan)** for PVTGs has identified **191 PVTG** individuals in the islands so far.

Source: TH

AIRCRAFT ACCIDENT INVESTIGATION BUREAU (AAIB)

Context

- The Aircraft Accident Investigation Bureau (AAIB) has released its 15-page preliminary report on the investigation into the recent Air India plane crash in Ahmedabad that claimed 260 lives.

What is the AAIB?

- The Aircraft Accident Investigation Bureau (AAIB) is a **statutory body** under the Ministry of Civil Aviation, Government of India, responsible for investigating civil aviation accidents and serious incidents in the country.
- Under **Rule 3 of the Aircraft (Investigation of Accidents and Incidents) Rules, 2017**, its sole objective is to prevent future accidents and incidents — **not to apportion blame or liability**.
- The AAIB has **unrestricted access** to all relevant evidence, without needing prior permission from judicial or other government authorities.

Do you Know?

- Matters of international civil aviation safety are governed by the **Convention on International Civil Aviation (Chicago Convention, 1944)**.
- The **International Civil Aviation Organization (ICAO)**, a UN body with 193 member states (including India), oversees technical standards for global air safety.
- **Annex 13** of the Chicago Convention details international protocols for investigating aircraft accidents.
- It mandates that the **'State of Occurrence'** (where the accident happens) leads the investigation, while states connected to the aircraft (like the State of Registry or State of Manufacture) have the right to participate.

Source: IE

NATURAL RUBBER PRODUCTION

Context

- Experts have projected that India's natural rubber (NR) consumption will reach **20 lakh tonnes by 2030**, highlighting the urgent need to accelerate

domestic production to meet rising demand and reduce import dependency.

Status of Natural Rubber in India

- Natural rubber is derived from the **latex of Hevea brasiliensis**, a tree native to the **Amazon Basin**.
- In the financial year **2024–25 (FY25)**, India's domestic production of natural rubber stood at **8.7 lakh tonnes**.
- During the same period, the domestic consumption of natural rubber reached **14.1 lakh tonnes**.
- India is currently the **second-largest consumer** of natural rubber in the world, after **China**.
- However, it ranks as the **sixth-largest producer globally**, highlighting a significant gap between consumption and domestic production.

Initiatives taken to increase rubber production

- **NE-MITRA project (North East Mission for Integrated Technology and Rubber Advancement)**: It aims to increase rubber production and self-reliance in natural rubber, reducing the country's dependence on imports.
- To address the supply gap, **ATMA or Automotive Tyre Manufacturers' Association**, in collaboration with the **Ministry of Commerce and Industry** and the **Rubber Board of India**, has launched **Project Indian Natural Rubber Operations for Assisted Development (INROAD)**.

Importance of Natural Rubber

- **Tyre Industry**: Consumes over 70% of NR; critical for the automobile, aviation, and defence sectors.
- **Employment**: Supports **~13 lakh** small and marginal farmers, especially in Kerala, Tripura, and NE states.
- **National Resilience**: Reducing dependence on imported rubber and finished tyres enhances economic security.

Geographical Conditions for Rubber production

- **Climate**: Hot and humid conditions with temperatures between 25-35°C.
- **Rainfall**: Annual precipitation between 1,800-2,500 mm.
- **Soil Type**: Deep, well-drained loamy or lateritic soils with good water-holding capacity.
- **Altitude**: Generally grown up to 300 meters above sea level.

Rubber Production in India

- **Kerala**: The leading state in rubber production, contributing over 70% of India's total output.
- Other states are **Tamil Nadu, Karnataka, Tripura, and Assam**.

Source: TH

EXERCISE TALISMAN SABRE

Context

- India has made its debut in Australia's largest bilateral military exercise, **Exercise Talisman Sabre**.

About the Exercise

- Talisman Sabre began in **2005** as a **biennial** joint exercise between the **United States and Australia**.
- This year, more than **35,000 military personnel** from 19 nations, including Canada, Fiji, France, Germany, **India**, Indonesia, Japan, the Netherlands, New Zealand, Norway, Papua New Guinea, the Philippines, South Korea, Singapore, Thailand, Tonga, and the United Kingdom, will take part over three weeks.
 - ♦ **Malaysia and Vietnam** are also attending as observers.

Source: TH