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CIVILS ACADEMY
EMPOWERING FUTURE LEADERS

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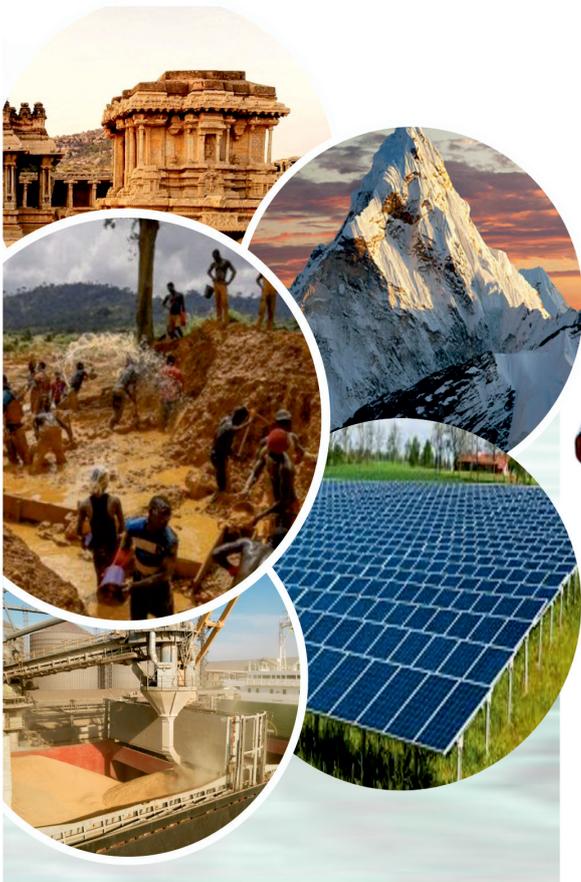
EXCEL

CIVILS ACADEMY

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DIRECTOR MESSAGE

Dear Aspirants,

The passage of the SHANTI Act and the Viksit Bharat – G RAM G Act during the December 2025 Winter Session signifies a bold recalibration of India's developmental trajectory. These legislative landmarks address two fundamental pillars of the "Viksit Bharat 2047" vision: long-term energy sovereignty and immediate rural economic resilience. While the SHANTI Act looks toward a high-tech, nuclear-powered industrial future, the VB GRAM G Act seeks to fortify the grassroots social safety net. Together, they form a dual- track strategy designed to modernize the national energy backbone while simultaneously deepening the social protection architecture for the country's most vulnerable populations.

The Sustainable Harnessing and Advancement of Nuclear Energy for Transforming India (SHANTI) Act, 2025, represents a paradigm shift in the nation's civil nuclear policy. By modernizing decades-old legal frameworks, the Act opens the door for private and foreign investment in a sector previously dominated by the state. This transition is aimed at accelerating the deployment of nuclear capacity to meet the surging electricity demands of a growing economy. By granting statutory status to the Atomic Energy Regulatory Board (AERB), the law seeks to balance this rapid expansion with tighter safety standards and enhanced accountability, ensuring that growth does not come at the cost of regulatory oversight.

Proponents of the SHANTI Act argue that nuclear energy is the only viable solution for providing reliable, carbon-neutral baseload power. As India transitions away from fossil fuels to meet its climate commitments, the intermittency of solar and wind power necessitates a stable alternative that nuclear energy can provide. In the long run, a successful nuclear expansion could stabilize the national grid, lower electricity costs for industrial manufacturing, and significantly reduce the country's carbon footprint. This shift would indirectly benefit public health by reducing air pollution and mitigate the long-term risks faced by populations vulnerable to climate change.

However, the privatization of nuclear energy introduces complex questions regarding risk distribution and environmental justice.
Communities living near existing or proposed nuclear sites often face a

difficult trade-off between the promise of regional development and the reality of potential radiological risks. There are persistent concerns that commercial pressures could lead to the dilution of liability rules or emergency preparedness plans. For the SHANTI Act to succeed ethically, the regulator must maintain genuine independence from both corporate interests and political pressure, ensuring that safety norms remain non-negotiable for populations with limited bargaining power.

Parallel to this high-tech energy push, the Viksit Bharat – Guarantee for Rozgar and Ajeevika Mission (Gramin) Act, or VB GRAM G, reimagines the rural employment landscape. By increasing the statutory guarantee from 100 to 125 days of wage employment per household, the Act expands the safety net for millions of rural families. Beyond mere distress relief, the law seeks to integrate rural works with national infrastructure platforms like PM Gati Shakti. This transition from "work for work's sake" to "vision-driven asset creation" aims to build a National Rural Infrastructure Stack through geospatial planning and digital monitoring.

For rural households grappling with agrarian distress and climate shocks, the expanded employment window offers a vital cushion against income volatility. The Act's emphasis on timely payments, delay compensation, and the restoration of unemployment allowances provides a more robust framework for consumption smoothing throughout the year. Furthermore, by mandating that Gram Sabhas lead the preparation of "Viksit Gram Panchayat Plans," the legislation has the potential to decentralize governance. If implemented correctly, this participatory

approach could empower marginalized groups to dictate their own local development priorities rather than following top-down mandates.

Despite these benefits, the VB GRAM G Act introduces a new 60:40 fund-sharing ratio that places a heavier financial burden on state governments.

Fiscally weaker states may find it difficult to fulfill the 125-day guarantee, potentially leading to payment delays or reduced work availability during economic downturns. Critics also worry that the shift toward "norm-based" allocations and algorithmic targeting might prioritize data efficiency over actual human distress. If digital platforms and AI-enabled analytics become rigid gatekeepers, the

poorest workers—who often lack digital literacy or consistent connectivity—risk being inadvertently excluded from the very system designed to protect them.

Another point of contention is the provision allowing states to pause public works for a 60-day "peak agricultural season." While intended to ensure a steady supply of labor for private farms, this pause may disadvantage landless laborers who rely on the employment guarantee when private wages are exploitative or farm work is unavailable. This tension highlights a potential conflict between supporting the agricultural economy and protecting the right to work. Ensuring that this pause does not exacerbate seasonal hunger will require careful coordination and a nuanced understanding of local labor dynamics across different agricultural zones.

Viewed collectively, these two Acts illustrate the multifaceted nature of India's 2047 strategy. The SHANTI Act addresses the "macro" need for a cleaner, more efficient energy supply to drive urban and industrial growth, while the VB GRAM G Act focuses on the "micro" stability of the rural economy. Urban populations may see the benefits in the form of more reliable power and specialized jobs, while rural citizens may gain enhanced resilience to economic shocks. However, both laws share a common challenge: the need for an implementation framework that prioritizes human rights and safety over pure efficiency or commercial gain.

In conclusion, the transformative potential of the SHANTI and VB GRAM G Acts depends entirely on the quality of their execution. The success of the nuclear transition hinges on the AERB's ability to enforce rigorous safety standards, while the efficacy of the rural employment mission depends on the inclusivity of its digital and fiscal architecture. As India moves toward its centennial of independence, these laws provide the structural blueprints for progress. Ultimately, it will be the political will and the strength of participatory oversight that determine whether these Acts truly deliver an equitable and prosperous "Viksit Bharat" for all.

Best wishes

Yours sincerely,

K Rajendra Kumar IPS (Retd)

Current Affairs

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HISTORY & CULTURE

Union Budget 2026–27 announces scheme to develop Buddhist Circuit in Northeast

Context:

In the Union Budget 2026–27, Finance Minister Nirmala Sitharaman announced a new scheme to develop a Buddhist Circuit in the Northeast to preserve temples and monasteries and promote tourism.

About Union Budget 2026–27 announces scheme to develop Buddhist Circuit in Northeast:

What it is?

- The Buddhist Circuit (Northeast) is a heritage–tourism initiative aimed at conservation, connectivity, and promotion of Buddhist monasteries and pilgrimage sites across northeastern States, integrating culture with livelihoods and regional development.

Key budget announcements:

- Buddhist Circuit (Northeast): New scheme to preserve and develop temples and monasteries.
- Tourism infrastructure: Creation of five tourism destinations in Purvodaya States and deployment of 4,000 e-buses for tourist mobility.
- Regional growth: 5,000 crore allocated over five years for CITY Economic Regions (CERs) to boost urban–industrial ecosystems.
- Connectivity thrust: Complemented by the East Industrial Corridor to link tourism with logistics and markets.

Here is a list of the most important monasteries in the region, categorized by state:

Arunachal Pradesh

- Arunachal houses the largest concentration of Mahayana Buddhist sites, many located in the Tawang and West Kameng districts.
- Tawang Monastery (Galden Namgyal Lhatse): The largest monastery in India and the second-largest in the world. Perched at 10,000 feet, it was founded in the 17th century and houses a massive 18-foot gilded Buddha statue.
- Bomdila Monastery: Established in 1965, it is a prominent center for the Mahayana sect and offers panoramic views of the Himalayas.
- Urgelling Monastery: Famous as the birthplace of the 6th Dalai Lama. It is one of the oldest in the region, dating back to the 15th century.
- Golden Pagoda (Namsai): A beautiful Burmese-style pagoda known for its gold-plated structure and serene gardens, reflecting the Theravada tradition.
- Taktsang Gompa: Often called the Tiger's Nest of India, it is located near the Bhutan border and is where Guru Padmasambhava is said to have meditated.

Sikkim

- Sikkim's monasteries are predominantly of the Nyingma and Kagyu schools of Tibetan Buddhism.
- Rumtek Monastery: The largest in Sikkim and the seat-in-exile of the Gyalwang Karmapa (Kagyu sect). It is a major center for Buddhist studies.
- Pemayangtse Monastery: One of the oldest and most prestigious monasteries in Sikkim. It historically controlled all other Nyingma monasteries in the state.

- Enchey Monastery: Located in Gangtok, this 200-year-old monastery is built on a site blessed by the tantric master Lama Druptob Karpo.
- Tashiding Monastery: Considered the holiest monastery in Sikkim; it is believed that even a glimpse of the monastery can cleanse one of their sins.
- Dubdi Monastery: Known as the Hermit's Cell, it is the oldest monastery in Sikkim, established in 1701 during the consecration of the first Chogyal (King).

Other Notable Monasteries

- Ghoom Monastery (West Bengal): While technically in North Bengal (Darjeeling), it is a vital part of the North East circuit. It is famous for its 15-foot high statue of the Maitreya Buddha.
- Namphake Monastery (Assam): Located near Dibrugarh, it belongs to the Tai-Phake community and is one of the oldest and most beautiful Theravada monasteries in the state.
- Venuvan Vihara (Tripura): Located in Agartala, this is a significant site for the local Buddhist community and features a metal Buddha statue brought from Myanmar.

Serengsia Battle

Context:

The Jharkhand government recently commemorated the Serengsia battle (1837) as a landmark Adivasi resistance against British rule, with the Chief Minister attending a state event.

About Serengsia Battle (1837):

What it is?

- The Serengsia battle was a fierce armed resistance by Ho Adivasis against the East India Company in 1837, fought in the Serengsia valley of present-day Jharkhand (West Singhbhum).
- It represents one of the earliest organised tribal military challenges to British expansion in eastern India.

Historical background:

- The Kolhan region (East & West Singhbhum, Seraikela-Kharsawan) was traditionally governed by the Ho community.
- In 1820–21, the British brought Kolhan under the Bengal Presidency to secure trade routes between Bengal and Madras.
- British policies imposed taxes, allowed non-tribal settlement, and enforced alien languages and authority systems.
- Exploitation by zamindars and officials led to repeated unrest, including the Kol uprising of 1831.
- By 1836, British forces established the Kolhan Estate Government, capturing Ho villages and pirhs, intensifying resistance.

Causes of the battle:

- Loss of autonomy: Imposition of British administration over sacred Ho land believed to be granted by Sing-Bonga (supreme deity).
- Economic exploitation: Forced taxation and land alienation.
- Cultural suppression: Linguistic imposition and social domination.
- Military repression: Arrests, village occupations, and coercive policing by British forces.

Leaders involved:

- The Ho resistance was led by: Poto Ho (principal leader, from Rajabasa), Berai Ho, Punduva (Pandua) Ho, Badai Ho, Nara Ho, Devi Ho, and Sugni Ho.

The battle (1837):

- Ho strategy: Guerrilla-style warfare using terrain advantage in the narrow Serengsia valley.

- Weapons & tactics: Bows and arrows, obstacles on valley paths, burning cow dung mixed with ash and chilli powder, and coordinated attacks from hill slopes.
- Outcome: Over 100 British soldiers killed; about 26 Ho fighters lost their lives. British forces were forced to retreat initially.

Outcomes and aftermath:

- British retaliation followed with village burnings, mass arrests, and collective punishment.
- By December 8, 1837, all major Ho leaders were captured.

Executions:

- January 1, 1838: Poto Ho, Berai Ho, and Nara Ho hanged publicly at Jagannathpur.
- January 2, 1838: Bora Ho and Pandua Ho hanged near Mundasai, Serengsia.
- Around 79 Ho fighters were imprisoned.
- Despite repression, the resistance influenced later recognition of Kolhan's distinct administrative status and tribal self-governance traditions.

80th Anniversary of the 1946 Royal Indian Navy Revolt

Context:

February 18, 2026 marks the 80th anniversary of the 1946 Royal Indian Navy (RIN) Revolt, a major uprising against British rule.

About 80th Anniversary of the 1946 Royal Indian Navy Revolt:

What Was the 1946 Royal Indian Navy Revolt?

- The Royal Indian Navy (RIN) Revolt was a five-day armed uprising (February 18–23, 1946) by Indian naval ratings against British colonial authority.
- It began as a protest over poor conditions but soon evolved into a wider anti-colonial rebellion involving sailors, workers, and civilians.

Historical Background:

- Indian ratings faced racial discrimination, poor food, low wages, and harsh treatment.
- Inspired by the Quit India Movement (1942) and the trials of the Indian National Army (INA).
- Appointment of openly racist officers, such as Arthur Frederick King at HMIS Talwar, further fuelled anger.

Leaders Associated:

- Prominent leaders of the uprising included: B. C. Dutt, M. S. Khan, Madan Singh, Salil Shyam, and Rishi Dev Puri.
- A Naval Central Strike Committee was formed to coordinate actions and present demands.

Events of the Revolt:

Beginning at HMIS Talwar (Bombay):

- Started with a hunger strike over poor food quality on February 18, 1946.
- Raised nationalist slogans such as "Quit India" and "Jai Hind."

Rapid Spread:

- Spread to 78 ships and 20 shore establishments across Bombay, Karachi, Madras, Vishakhapatnam, Kolkata, and the Andamans.
- Nearly 20,000 naval ratings participated.

Popular Support:

- Workers, students, and civilians joined in solidarity.
- Hindu-Muslim unity was visible as Congress, Muslim League, and Communist flags were hoisted together.
- The Bombay Uprising of 1946 – refers to the mass protests and street battles that erupted in Bombay (now Mumbai), in support of the Royal Indian Navy (RIN) revolt against British rule.

Armed Confrontation:

British troops opened fire in Bombay.

- Street battles erupted in mill districts like Kamatipura and Madanpura.
- Around 200 civilians were killed during suppression efforts.

End of the Revolt:

- Political leaders, including Congress and Muslim League leadership, urged restraint.
- Naval ratings surrendered on February 23, 1946.
- Leaders were arrested, and the uprising was militarily suppressed.
- However, the revolt deeply shook British confidence in maintaining control over India.

Significance:

- The revolt signalled that even the armed forces, the backbone of colonial control, could no longer be fully trusted by the British, accelerating their decision to transfer power.
- At a time of growing communal tensions, the uprising witnessed rare solidarity across religious lines, with joint protests and shared nationalist symbols.
- The movement extended beyond naval ratings, drawing workers, students, and civilians into coordinated street resistance against colonial authority.

The Splendour of the Hoysalas

Context:

In 2023, the Hoysala temples of Belur, Halebidu, and Somanathapura were inscribed on the UNESCO World Heritage List.

- In 2026, architectural enthusiasts and historians are increasingly focusing on the silent or overlooked Hoysala monuments in rural Karnataka, such as Koravangala and Doddagaddavalli.

About The Splendour of the Hoysalas:

What it is?

- The Hoysala Empire (11th–13th century) transformed the landscape of modern-day Karnataka into a canvas of Soapstone (Chloritic Schist).
- Their splendor lies in their ability to treat stone like sandalwood; they moved away from the austere styles of their predecessors to create the most ornate, intricate, and high-relief carvings in Indian history.

Important Hoysala Temples:

1. Halebidu (Hoysaleshwara Temple)

- History: Constructed around 1121 CE by Ketamalla, an official of King Vishnuvardhana, it was the capital city's (Dorasamudra) crowning achievement.

Key Features:

- Dvikuta Plan: It consists of two identical temples side-by-side, dedicated to Hoysaleshwara and Shantaleshwara.
- The Friezes: The outer walls contain miles of continuous carvings depicting elephants (strength), lions (courage), and floral scrolls.
- Nandi Pavilions: Features two massive monolithic Nandi statues housed in open-pillared pavilions.
- The Dark Polish: The interior pillars are so finely lathed they possess a metallic, mirror-like sheen.

2. Belur (Chennakeshava Temple)

- History: Commissioned by King Vishnuvardhana in 1117 CE to commemorate his victory over the Cholas at Talakadu.

Key Features:

- The Madanikas: Famous for 42 Salabhanjika (bracket figures) depicting celestial dancers in incredibly detailed poses.
- Star-Shaped Platform (Jagati): The temple sits on a raised platform that follows the jagged contours of the shrine, providing a walkway for circumambulation.
- Gravity Pillar: Features a 42-foot high monolithic pillar in the courtyard that stands on its own weight without a foundation.
- Detailed Intricacy: The Narasimha Pillar once could be rotated because of the precision of the stone ball-bearings used by the artisans.

3. The Silent Sites (Overlooked Jewels)

- Lakshmidevi Temple, Doddagaddavalli:
- One of the earliest Hoysala temples (1114 CE) featuring a Chatuskuta (four-shrine) plan.
- Notable for its Mahakali shrine guarded by skeletal Betalas (ghouls).

Bucheshwara Temple, Koravangala:

- A grand Dvikuta temple where the carvings represent the transition into the peak Hoysala style.

Hulikere Kalyani:

- A magnificent stepwell featuring 12 shrines with towers (shikharas) and 14 without, symbolizing the zodiac and lunar mansions.

Key Characteristics of Hoysala Architecture:

- Star-Shaped (Stellate) Plan: Most temples are built on a Jagati that follows a complex star-shaped layout, providing more wall space for carvings.
- Horizontal Friezes: The base of the temple consists of multiple horizontal layers (friezes) depicting elephants (strength), lions (courage), horses (speed), and floral motifs.
- Lathe-Turned Pillars: The interior halls (Mantapas) feature circular, polished pillars that reflect light beautifully.
- Soapstone Mastery: The use of soft Chloritic Schist allowed artisans to carve three-dimensional jewelry, lace, and fingernails on stone statues.
- Perforated Stone Screens (Jalis): Used in the walls of the Mantapa to provide filtered light and ventilation while maintaining privacy.

Significance of Hoysala Heritage:

- Artistic Zenith: Represents the pinnacle of Indian medieval sculpture, where stone was treated with the delicacy of wood.
- Religious Synthesis: The coexistence of Shiva, Vishnu, and Jain Basadis reflects a period of great religious harmony and tolerance.
- Hydraulic Engineering: Sites like the Hulikere Kalyani demonstrate advanced medieval water conservation and sacred landscape planning.
- Socio-Economic History: Inscriptions on these temples provide deep insights into the roles of merchants, women, and artists in medieval Karnataka.

Conclusion:

The Hoysala legacy is more than just the grand monuments of Belur and Halebidu; it is an intricate network of rural shrines that whisper the stories of a masterful civilization. Preserving these silent wonders is essential for understanding the full spectrum of Indian temple architecture. Their stone tapestries remain a testament to a time when devotion and art were indistinguishable.

Maharshi Dayanand Saraswati

Context:

Prime Minister of India paid tribute to Maharshi Dayanand Saraswati on his 202nd birth anniversary, highlighting his lifelong role in social reform, education and cultural awakening.

About Maharshi Dayanand Saraswati:

Who he was?

- Maharshi Dayanand Saraswati (1824–1883), born Mool Shankar, was a Hindu ascetic, Vedic scholar and social reformer who founded the Arya Samaj (1875) to reform Hindu society and restore what he saw as the original Vedic spirit.

Early life:

- Born on 12 February 1824 at Tankara (Kathiawar region, present-day Gujarat) in a Brahmin family.
- A childhood temple incident (questioning idol worship) and the deaths of close family members deepened his search for truth.
- Left home to avoid an arranged marriage and spent years as a wandering ascetic; later became a disciple of Swami Virajananda, who guided him toward a return to the Vedas mission.

His philosophies:

- Back to the Vedas: Vedas as the primary and most authentic source of dharma/knowledge.
- Rational reform: opposed blind ritualism, superstition, and practices he considered irrational.
- Social equality: challenged caste-by-birth and supported dignity of all individuals; emphasized merit-based social roles.
- Women's upliftment: supported women's education, opposed social practices like child marriage, and encouraged reforms in family and society.
- Ethical life & discipline: stressed truth, self-control (brahmacharya), yoga, and moral conduct.

Contribution to socio-religious movement:

- Founded Arya Samaj (1875)—a reform movement promoting Vedic learning, social reform, education, and national-cultural awakening.
- Encouraged debate, public reasoning, and scriptural study accessible beyond narrow priestly control.
- Inspired later reform and nationalist currents through emphasis on self-respect, reform, and indigenous awakening.

Literary works:

- Dayanand wrote 60+ works, including major texts such as:
- Satyarth Prakash (his most influential work).
- Sanskarvidhi (on sacraments/rites in a reformed framework).
- Rigvedadi Bhashya Bhumika and partial Vedic commentaries (Rigveda/Yajurveda).
- He also established/linked efforts for publishing and spreading Vedic literature through institutions like Paropakarini Sabha (Ajmer).

Last days:

- In 1883, while in Jodhpur under royal patronage, he fell critically ill after being poisoned (as widely alleged in narratives), and despite treatment efforts he died on 30 October 1883 in Ajmer.
- His final phase is remembered for unwavering commitment to reform despite strong opposition.

Chandrashekhar Azad

Context:

Prime Minister paid heartfelt tributes to the revolutionary Chandrashekhar Azad marking his Martyrdom Day and recalling his supreme sacrifice and unwavering resolve against injustice.

About Chandrashekhar Azad:

Who He Was?

- Chandrashekhar Azad (born Chandra Shekhar Sitaram Tiwari) was one of India's most fearless and potent revolutionaries.
- Known for his mental and physical dexterity—earning him the nickname Quick Silver—he led a militant youth movement and famously vowed never to be captured alive by the British.
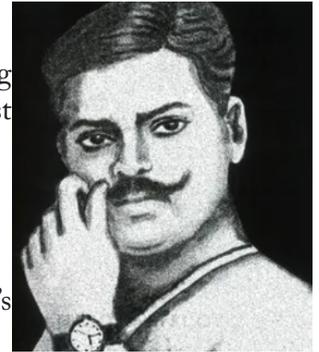
Early Life:

- Birth: July 23, 1906, in Bhabra, Alirajpur (Madhya Pradesh).
- Education: He grew up in poverty and later attended a Sanskrit school in Varanasi.
- The Naming: After being arrested at age 15 during the Non-Cooperation Movement, he told the magistrate his name was Azad (Free), his father's name was Swatantra (Independent), and his home was Jail. Following a severe flogging, he adopted Azad as his permanent title.

Contribution to Freedom Movement:

- Shift to Militancy: Disappointed by the suspension of the Non-Cooperation Movement after the Chauri Chaura incident, he embraced extremist methods to achieve independence.
- Kakori Conspiracy (1925): He was a key participant in the Kakori train robbery. While others were caught, Azad successfully evaded capture and fled to Jhansi.
- Lahore Conspiracy (1928): Along with Bhagat Singh and Rajguru, he executed the assassination of British officer John Saunders to avenge the death of Lala Lajpat Rai.

Organizations Associated:

- Hindustan Republican Association (HRA): Joined under the leadership of Ram Prasad Bismil.
- Hindustan Socialist Republican Association (HSRA): After the crackdown on the HRA, Azad reorganized the group into the HSRA, serving as a key leader alongside Bhagat Singh.
- He used the name Balraj to sign official HSRA statements and lived under the disguise of a teacher named Harishankar in Jhansi.

Last Days:

- On February 27, 1931, Azad was betrayed and surrounded by police at Alfred Park (now Azad Park) in Allahabad.
- After a fierce gun battle where he helped his comrade Sukhdev Raj escape, Azad died at the age of 24.

Removal of the Chief Election Commissioner (CEC)

Context:

West Bengal Chief Minister stated that the TMC is open to working with the Congress and other Opposition parties to initiate impeachment proceedings against Chief Election Commissioner (CEC) Gyanesh Kumar.

About Removal of the Chief Election Commissioner (CEC):

Who is the Chief Election Commissioner?

- The Chief Election Commissioner (CEC) is the head of the Election Commission of India (ECI), a constitutional body entrusted with the superintendence, direction, and control of elections to Parliament, State Legislatures, and the offices of the President and Vice-President.

Constitutional article associated:

- Article 324 of the Constitution of India
- Establishes the Election Commission of India
- Provides for its composition, powers, and independence

Appointment of the CEC:

- Appointed by the President of India.
- As per the Chief Election Commissioner and Other Election Commissioners (Appointment, Conditions of Service and Term of Office) Act, 2023:
- Selection is based on the recommendation of a three-member committee consisting of:

  1. Prime Minister
  2. Leader of Opposition in Lok Sabha
  3. A Union Cabinet Minister nominated by the PM
- Tenure: 6 years or till the age of 65 years, whichever is earlier.

Removal process of the CEC:

- Article 324(5) provides that the CEC can be removed in like manner and on like grounds as a Judge of the Supreme Court.
- This links the process to Article 124(4) (removal of SC judges)

Grounds for removal:

- Proved misbehaviour (e.g., abuse of office, corruption, failure to discharge constitutional duties)
- Incapacity (physical or mental inability to perform duties)

Procedure:

- Notice of motion introduced: A formal written notice alleging proved misbehaviour or incapacity of the CEC is introduced in either House of Parliament to initiate proceedings.
- Support by requisite MPs: The motion must be backed by a minimum number of Members of Parliament, ensuring that removal is not triggered by frivolous or partisan allegations.
- Inquiry by a committee: An independent inquiry committee is constituted to investigate the charges, examine evidence, and establish whether misbehaviour or incapacity is proved.
- Special majority in both Houses: The motion must secure a constitutional special majority—a majority of total membership and two-thirds of members present and voting—in both Lok Sabha and Rajya Sabha.
- Presidential order of removal: Once Parliament adopts the motion, the President formally orders removal, acting without discretion and in accordance with Parliament's decision.

Infertility in India

Context:

Infertility is emerging as a critical public health challenge in India in 2026, with experts increasingly highlighting that mental health is not just a consequence but a physiological driver of reproductive failure for all genders.

About Infertility in India:

What it is?

- Infertility in India is defined as the inability of a couple to conceive after 12 months of regular, unprotected intercourse. While traditionally viewed as a woman's issue due to deep-seated patriarchal norms, contemporary data reveals a nearly equal split in male and female factor causes.
- In 2026, the conversation has shifted toward the silent crisis of male infertility and the biological impact of psychological stress on reproductive cells (gametes).

Key Trends and Data:

- National Prevalence: Approximately 15–20% of Indian couples (nearly 30 million) currently grapple with infertility, with rates significantly higher in urban centers.
- Falling TFR: India's Total Fertility Rate (TFR) has dipped to 1.9, well below the replacement level of 2.1, driven by both voluntary delays and involuntary infertility.
- Male Factor Rise: Men now account for nearly 40–50% of infertility cases, often linked to declining sperm quality due to environmental toxins and stress.
- Urban-Rural Divide: Urban areas report higher primary infertility (never conceived), while rural areas see higher secondary infertility, often due to untreated infections.
- IVF Growth: The Indian IVF market is projected to double from million in 2024 to billion by 2029, reflecting increased seeking of medical aid.

Causes of Rising Infertility in India:

1. Delayed Parenthood: Career prioritization and financial stability goals are pushing the average age of first-time parents beyond the biological prime.

E.g. Data from urban hubs like Bengaluru and Mumbai show a 25% increase in women seeking fertility treatments after the age of 35 in 2025-26.

1. Environmental Pollution: High levels of Endocrine Disrupting Chemicals (EDCs) in air and water are sabotaging hormonal health.

E.g. Studies in Delhi have linked Poor air quality days to transient drops in sperm motility among healthy young males.

1. Lifestyle-Related Disorders: Obesity and PCOS (Polycystic Ovary Syndrome) have become epidemic due to sedentary routines and processed diets.

E.g. One in five Indian women is estimated to suffer from PCOS in 2026, a leading cause of anovulatory infertility.

1. Chronic Psychological Stress: High cortisol levels from workplace pressure directly inhibit the HPA axis, disrupting ovulation and spermatogenesis.

E.g. Research published in Frontiers in Endocrinology (2024) confirmed that depression in Indian men is significantly associated with decreased semen concentration.

1. Untreated Reproductive Infections: In rural areas, the stigma around STIs and Pelvic Inflammatory Disease (PID) leads to tubal blockages.

E.g. Cases of tubal factor infertility in states like Bihar are frequently traced back to untreated post-partum infections or tuberculosis.

Challenges Associated with Infertility:

1. Social Stigma and Ostracization: Women are often branded with pejorative terms and excluded from social/religious gatherings if they fail to conceive.

E.g. In several rural clusters in Tamil Nadu, the term 'Maladi' is still used to socially isolate women, leading to severe identity fragmentation.

1. Prohibitive Treatment Costs: IVF and ART procedures remain catastrophic expenses for the middle and lower classes.

E.g. An average IVF cycle in 2026 costs between 1.5–3 lakh, while over 90% of Indian insurance policies still exclude infertility coverage.

1. The Silence of Male Infertility: Patriarchal norms prevent men from seeking semen analysis, often leading to unnecessary and invasive testing for their wives.

E.g. Clinical reviews in 2025 noted that men often wait 3-5 years longer than women to undergo their first fertility screening due to masculinity concerns.

1. Psychological Feedback Loops: The stress of failing to conceive becomes a biological impediment, creating a cycle where stress prevents the very pregnancy being sought.

E.g. The monthly cycle of hope and grief in IVF patients has been linked to elevated salivary alpha-amylase, which reduces the probability of implantation.

1. Regulatory Gaps in Tier II/III Cities: Rapidly mushrooming clinics in smaller towns often lack standardized protocols or transparent success rates.

E.g. Under the 2025 ART guidelines, several basement clinics in North India were shut down for misleading advertisements and donor exploitation.

Initiatives Taken by the Government:

- ART and Surrogacy (Regulation) Acts: Stringent 2025 guidelines mandate the registration of all clinics and protect donors from exploitation (e.g., limiting egg donation to once in a lifetime).
- Budget 2026 Health Focus: The 2026 Union Budget proposed NIMHANS-2 and the upgrade of regional mental health institutes to address the psychological toll of chronic conditions like infertility.
- Project Sanjivini: A collaborative pilot between the Indian Fertility Society and the government to disseminate reproductive health knowledge at the grassroots level in 5 states.
- National Registry: The establishment of a digital registry to track ART outcomes, ensuring clinics provide transparent and honest success rates to patients.

Way Ahead:

- Integrating Mental Health: Counseling should be a mandatory, non-optional component of every IVF cycle to manage the emotional rollercoaster of treatment.
- Insurance Inclusion: The IRDAI should mandate at least partial coverage for infertility under standard health insurance to prevent financial ruin.
- Workplace Sensitivity: Corporates should adopt Fertility Leave policies and insurance support for egg freezing to accommodate delayed parenthood.
- Male-Centric Campaigns: Public health messaging must de-stigmatize male factor infertility to ensure both partners are tested simultaneously from the start.
- Community Education: Utilizing ASHA workers to educate rural populations that infertility is a medical condition, not a moral failure or a curse.

Conclusion:

Infertility in 2026 is no longer just a biological hurdle but a profound social and psychological crisis that demands a gender-neutral approach. By bridging the gap between advanced reproductive science and empathetic social narratives, India can transform fertility care into a journey of dignity rather than one of quiet suffering. True healing will only occur when we treat the mind with the same urgency as the body.

Tripartite Agreement for creation of the Frontier Nagaland Territorial Authority (FNTA)

Context:

A tripartite agreement was signed between the Centre, the Nagaland government, and the Eastern Nagaland People's Organisation (ENPO) to create the Frontier Nagaland Territorial Authority (FNTA), granting enhanced autonomy to six eastern districts of Nagaland.

About Tripartite Agreement for creation of the Frontier Nagaland Territorial Authority (FNTA):

What it is?

- The agreement provides for the establishment of the Frontier Nagaland Territorial Authority (FNTA) — an autonomous territorial governance structure for six districts of eastern Nagaland, with substantial devolution of administrative and developmental powers while remaining within the state of Nagaland.

Parties involved:

- Government of India
- Government of Nagaland
- Eastern Nagaland People's Organisation (ENPO) — apex body representing eight recognised Naga tribes.

Districts covered: Tuensang, Mon, Kiphire, Longleng, Noklak, and Shamator

Aim of the agreement:

- To address long-standing political, economic, and developmental grievances of Eastern Nagaland.
- To ensure equitable development, local decision-making, and financial autonomy.
- To strengthen peace and stability in the North-East region.

Key features:

- Creation of FNTA: A new territorial authority with administrative autonomy for six districts.
- Devolution of powers: Transfer of authority over 46 subjects to FNTA.

Financial autonomy:

- Development outlay to be shared proportionate to population and area
- Fixed annual allocation from the Centre.
- Initial establishment expenditure to be borne by the Union Ministry of Home Affairs.

Administrative structure:

- FNTA to have a mini-Secretariat.
- Headed by an Additional Chief Secretary / Principal Secretary–level officer.
- Constitutional safeguard: The agreement does not dilute Article 371(A) of the Constitution, which protects Naga customary laws, land, and resources.
- Democratic resolution: Outcome of prolonged dialogue, negotiations, and confidence-building since 2021–22.

Significance:

- Inclusive federalism: Demonstrates flexible autonomy arrangements within the Indian Constitution.
- Peace-building: Reduces risk of political radicalisation and separatist demands in Eastern Nagaland.
- Development push: Enables faster infrastructure creation, better resource utilisation, and targeted welfare delivery.

IT Rules Amendment 2026

Context:

The Union Government notified the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Amendment Rules, 2026 on February 10, 2026.

- The amendment specifically targets the rising threat of deepfakes and misinformation by mandating a swift 3-hour takedown window and compulsory labelling for AI-generated content.

About IT Rules Amendment 2026:

What it is?

- The amendment is a revision of the existing IT Rules, 2021, aimed at bringing Synthetically Generated Information (SGI) under strict legal oversight. It defines SGI as any audio, visual, or audio-visual content created or altered algorithmically to appear real or indistinguishable from a natural person or real-world event.

Key Amendments to the IT Rules:

1. Legal Recognition of "Synthetically Generated Information": For the first time, Indian law provides a clear, technical definition of Synthetic Content. It covers any media (audio, video, or images) created or modified by algorithms to look or sound authentic.

- The Focus: It specifically targets deepfakes and AI impersonation.
- The Nuance: It smartly carves out exceptions for good faith editing—like basic filters, accessibility features (text-to-speech for the blind), or academic research—so that innovation isn't accidentally criminalized.

2. Mandatory Labelling & Metadata: Transparency is no longer optional; it must be baked into the file itself.

- Visual/Audio Labels: If a video is AI-generated, it must have a visible watermark. If it's audio, it must start with a spoken disclaimer.
- Digital Fingerprints: Platforms must embed provenance markers (metadata) that stay with the file even if it's shared elsewhere. This allows investigators to trace the origin of a deepfake back to the specific AI tool used to create it.

3. Prohibition on Illegal AI Content: The government has moved from reactive to preventative. Intermediaries (like Instagram or X) must now use automated AI filters to block the upload of:

- CSAM & NCII: Child abuse material and non-consensual revenge porn deepfakes.
- Public Safety Risks: AI-generated instructions on how to build explosives or illegal weapons.
- Deception: Content designed to impersonate high-ranking officials or create false electronic records to commit fraud.

4. User Declaration Mechanism: The burden of honesty is placed on the user.

- Self-Disclosure: When you upload content to a major platform, you must declare if it was made with AI.
- Verification: Platforms cannot just take your word for it; they are legally required to use their own technical tools to double-check if your real video is actually a deepfake.

5. Shortened Takedown Timelines: In the age of viral content, 36 hours was considered an eternity. The new rules require warp-speed action:

- 3 Hours: For content deemed illegal by a court or the government.
- 2 Hours: For the most sensitive violations, like non-consensual deepfake nudity, where every minute of exposure causes trauma.
- Faster Grievances: Platforms must acknowledge your complaint in 7 days (down from 15), forcing them to staff up their moderation teams.

6. Law Enforcement Coordination: This amendment bridges the gap between digital policy and criminal justice.

- BNS Integration: References are now aligned with the Bharatiya Nyaya Sanhita (BNS), 2023, replacing the old IPC.

- Identity Disclosure: If a crime is committed via AI, platforms must reveal the creator's identity to the police. This is designed to end the anonymity shield that often protects deepfake creators.

7. Safe Harbour Clarification: This is the Carrot and Stick approach for Big Tech.

- Section 79 Protection: Platforms generally aren't sued for what users post (Safe Harbour).
- The Condition: Under the 2026 rules, if a platform fails to label AI or misses a 3-hour takedown window, they lose this protection. They can then be sued as if they were the ones who created the illegal content.

Significance of the Amendment:

- Combating Viral Misinformation: Prevents the rapid spread of fake news before it can cause real-world damage.

E.g. In the 2025 state elections, fabricated videos of candidates making inflammatory speeches were quelled by rapid intervention from the Cyber Crime Coordination Centre.

- Protecting Individual Dignity: Provides a fast-track remedy for victims of non-consensual AI-generated imagery.

E.g. The 2024 Rashmika Mandanna deepfake incident highlighted the need for near-instant removal to prevent irreversible reputational harm.

- Ensuring Electoral Integrity: Guards against the use of AI influencers or morphed videos to sway voters during the sensitive Model Code of Conduct period.

E.g. During recent local polls, AI-cloned voices of deceased political leaders were used for campaigning, prompting calls for strict disclosure.

- Strengthening Business Accountability: Forces global tech giants to invest in India-specific moderation and detection technologies.

E.g. Companies like Meta and X had to expand their Indian Grievance Officer teams in late 2025 to meet the increasingly tight response windows.

- Alignment with New Criminal Laws: The rules replace references to the IPC with the Bharatiya Nyaya Sanhita (BNS), 2023, streamlining the legal process.

E.g. Police in Delhi recently used BNS provisions alongside IT rules to fast-track a case involving AI-based financial digital arrest scams.

Challenges Associated with Implementation:

- Technical Accuracy of Detection: Automated tools often struggle to differentiate between high-quality deepfakes and actual real footage.

E.g. In 2025, several genuine satire videos were accidentally flagged and removed by AI filters on major video-sharing platforms.

- Resource Constraints for 3-Hour Takedowns: Smaller intermediaries may find it impossible to maintain 24/7 legal teams capable of acting within 180 minutes.

E.g. Regional social media apps in South India reported difficulty in 2024 meeting the high costs of compliance for real-time content moderation.

- Potential for Censorship by Proxy: Fears that the government might use the short window to suppress legitimate dissent or political parody.

E.g. Ongoing litigation in the Karnataka High Court (X Corp v. Union of India) debates whether takedown powers are being used too broadly.

- Traceability vs. Privacy: Embedding metadata and provenance markers could potentially compromise the end-to-end encryption of messaging apps.

E.g. In 2025, privacy advocates argued that the new metadata rules could act as a "backdoor" to identifying anonymous whistle blowers.

- Complexity of Blended Content: Difficulty in regulating videos that are 90% real but contain small, crucial AI-altered details.

E.g. A 2024 controversy involved a real protest video where the audio was subtitled with AI-generated translated hate speech that didn't exist.

Way Ahead:

- Standardized Watermarking: Developing a global industry standard for invisible digital watermarks that survive compression and re-uploads.
- Capacity Building for Law Enforcement: Training local police units (beyond just the DIG rank) to accurately identify and report synthetic harms.
- Public Awareness Campaigns: Educating citizens on how to spot telltale signs of deepfakes, reducing the reliance on takedowns alone.
- Independent Review Mechanism: Establishing an autonomous body of experts to review takedown orders to prevent political misuse.
- Incentivizing Research: Providing grants to Indian startups building advanced AI-detection tools specifically for regional Indian languages.

Conclusion:

The 2026 IT Rules amendment marks a decisive end to the wild west era of unregulated generative AI in India by shifting the burden of truth onto platforms. While the 3-hour takedown window poses a massive logistical challenge, it reflects the government's priority of safety over safe harbour. Success will depend on balancing these strict enforcement measures with the protection of free speech and user privacy.

India's Rank 91st in the Corruption Perceptions Index 2025

Context:

India has climbed to the 91st position on the global Corruption Perceptions Index (CPI), reflecting a slight improvement from its 96th rank in the previous year.

- Despite this five-place rise, India's score of 39 remains below the global average, highlighting that corruption is still viewed as a deep-rooted structural challenge.

About India's Rank 91st in the Corruption Perceptions Index 2025:

What it is?

- The Corruption Perceptions Index (CPI), released annually by Transparency International, ranks 182 countries and territories based on perceived levels of public sector corruption.
- It uses a scale from 0 (highly corrupt) to 100 (very clean). India's rank of 91st with a score of 39 indicates that while digitalization and reforms have prevented a decline, the country still struggles with bureaucratic opacity and weak enforcement.

Key Insights & Trends in CPI 2025:

- Stagnant Global Progress: The global average score has dropped to a new low of 42, with more than two-thirds of countries scoring below 50.
- Asia-Pacific Regional Unrest: The region saw slow growth in anti-corruption progress, with public anger in countries like Nepal and Indonesia leading to Gen Z-led protests against unaccountable leadership.
- Backslide in Democracies: Established democracies like the UK (dropped to 20th) and the US (slipped to 29th) have seen their scores decline due to weakening standards and political funding opacity.
- Danger for Journalists: The 2025 report specifically lists India as dangerous for journalists investigating corruption, noting that 90% of journalist killings occur in countries with scores below 50.
- Top and Bottom Performers: Denmark remains the cleanest country (score: 89), while Somalia and South Sudan remain at the bottom (score: 9).

Reasons for Corruption Persistence in India:

- Bureaucratic Red Tape: Excessive regulations and complex approval processes create gatekeeping opportunities for officials.

E.g. Recent 2024 investigations into land acquisition approvals in various states showed officials demanding bribes to bypass lengthy procedural delays.

- Weak Protection for Whistleblowers: Despite laws, individuals who expose corruption often face harassment or physical threats.

E.g. Transparency International's 2025 report highlighted the ongoing risks for investigative journalists reporting on local mining and sand mafias.

- Lack of Political Transparency: Opaque political funding and the influence of money power in elections sustain a corrupt ecosystem.

E.g. Ongoing debates in 2025 regarding the transparency of electoral funding mechanisms following the scrapping of previous bond schemes.

- Inconsistent Enforcement: Anti-corruption agencies are often perceived as being influenced by political considerations rather than independent merit.

E.g. Low conviction rates in high-profile 2024 scams, such as the West Bengal recruitment case, where legal proceedings have seen significant delays.

- Cultural Acceptance of 'Speed Money': A societal tendency to seek shortcuts (jugaad) leads to the normalization of petty bribery for basic services.

E.g. A 2024 study on regional transport offices (RTOs) found that citizens often pay middlemen to avoid the hassle of official driving test queues.

Initiatives Taken to Counter Corruption:

- Digitalization of Governance: Transitioning services to e-governance platforms (like Direct Benefit Transfer) to eliminate middlemen and human interface.
- Prevention of Corruption (Amendment) Act 2024: Strengthened punishments for bribe-givers and takers and introduced provisions for asset forfeiture.
- Expansion of Blockchain: Using blockchain technology for immutable land records and transparent government tendering in several states.
- Central Vigilance Commission (CVC) Reforms: Empowering the CVC with advanced forensic technologies and AI-powered tools to detect suspicious financial patterns.

Challenges to Counter Corruption:

- Overburdened Judiciary: The massive backlog of cases leads to trials dragging on for decades, reducing the deterrent effect.

E.g. In early 2025, several corruption cases from the 2010s were still awaiting final verdicts in special courts.

- Informal Economy & Black Money: A significant portion of the economy remains unorganized, making it easier to hide illicit transactions.

E.g. 2024-2025 tax raids continued to uncover massive stashes of unaccounted cash in the real estate and jewelry sectors.

- Cross-Border Asset Recovery: Difficulty in tracing and bringing back illicit funds stashed in foreign tax havens.

E.g. Indian authorities in 2025 emphasized the challenge of proving links in Hawala networks that bypass formal banking.

- Technological Misuse: While tech helps, corrupt actors are increasingly using encrypted platforms and deepfakes to facilitate fraud.

E.g. A 2025 cyber-cell report highlighted digital arrest scams where fraudsters pose as investigative officers to extort money.

- Weak Local Oversight: While central agencies are strong, village and municipal-level oversight bodies often remain underfunded or captured by local elites.

E.g. The 2024 Sandeshkhali incidents showcased how local power structures can suppress complaints and institutional accountability for years.

Way Ahead:

- Institutional Independence: Granting greater autonomy and fixed tenures to heads of investigative agencies like the CBI and ED.

- Fast-Track Courts: Establishing dedicated courts that must conclude corruption trials within a strict 1-year timeframe.
- Protection of Civic Space: Strengthening the safety of journalists and activists to ensure a robust social audit of government actions.
- Political Finance Reform: Implementing a more transparent and public-funded election model to reduce the need for illicit corporate funding.
- Educational Integration: Incorporating Integrity and Ethics as a mandatory part of school and civil service training to shift the cultural mindset.

Conclusion:

India's rise to 91st rank is a positive sign of incremental progress, but the low score of 39 warns that systemic corruption remains a heavy drag on economic growth and social trust. Moving forward, the focus must shift from symbolic reforms to substantive enforcement and protecting those who speak truth to power. Only through sustained institutional integrity can India hope to break into the top tier of the index.

No-Confidence Motion Against the Lok Sabha Speaker

Context:

The Opposition has moved a no-confidence motion against Lok Sabha Speaker Om Birla, triggering a constitutional procedure for examining the removal of the Speaker.

About No-Confidence Motion Against the Lok Sabha Speaker:

What is It?

- A no-confidence motion against the Speaker is a resolution seeking removal of the Speaker or Deputy Speaker of the Lok Sabha before the expiry of their term. It applies only to the Lok Sabha and not to the Rajya Sabha.
- The constitutional basis for removal is provided under Article 94(c) of the Constitution of India, which states that the Speaker or Deputy Speaker may be removed by a resolution of the House passed by a majority of all the then members.

Constitutional Provisions Involved:

- Article 94 – Vacation, Resignation and Removal
- A Speaker/Deputy Speaker shall vacate office if:
1. They cease to be a Member of the House
2. They resign in writing to the Deputy Speaker/Speaker
3. They are removed by a resolution passed by a majority of all the then members
- The procedure is further governed by Rules 200–203 of the Rules of Procedure and Conduct of Business in Lok Sabha.

Procedure for Removal of the Speaker:

Notice of Resolution:

- A written notice must be submitted to the Secretary-General of Lok Sabha.
- At least 14 days' notice is mandatory before the motion can be taken up.
- Inclusion in List of Business: After notice, the motion for leave to move the resolution is listed for a day fixed after 14 days.

Support Requirement:

- When the motion is taken up, at least 50 Members must rise in support.
- If fewer than 50 rise, the motion lapses.

Discussion:

- If admitted, the resolution must be discussed within 10 days.
- Debate is strictly confined to the charges specified in the motion.
- Voting Requirement: Removal requires a majority of all the then members of the House (effective majority).

Role of the Speaker During the Motion:

- The Speaker can participate in proceedings and speak in defence.
- They can vote in the first instance but cannot exercise a casting vote in case of a tie.
- Even after dissolution of Lok Sabha, the Speaker continues in office until the first sitting of the new House.

Has This Happened Before?

Yes, motions were moved against:

- G.V. Mavalankar (1954)
- Hukam Singh (1966)
- Balram Jakhar (1987)
- None of these resulted in removal.

Implications:

- Constitutional Accountability: Ensures that the presiding officer remains answerable to the House.
- Political Sensitivity: Reflects heightened tensions between ruling and opposition benches.
- Institutional Stability: Frequent or politically motivated motions may impact parliamentary decorum.

Centre's New Guidelines on 'Vande Mataram'

Context:

The Union Government has issued fresh guidelines mandating the singing of all six stanzas of 'Vande Mataram' at official functions. The order coincides with the 150th anniversary of the song's creation.

About Centre's New Guidelines on 'Vande Mataram':

What it is?

- The Ministry of Home Affairs (MHA) has notified the official version of 'Vande Mataram', requiring that all six stanzas of the original composition by Bankim Chandra Chatterjee be sung at specified government functions.
- The directive formalises the complete rendition of the national song and prescribes the protocol for its performance.
- Ministry Involved: Ministry of Home Affairs (MHA), Government of India
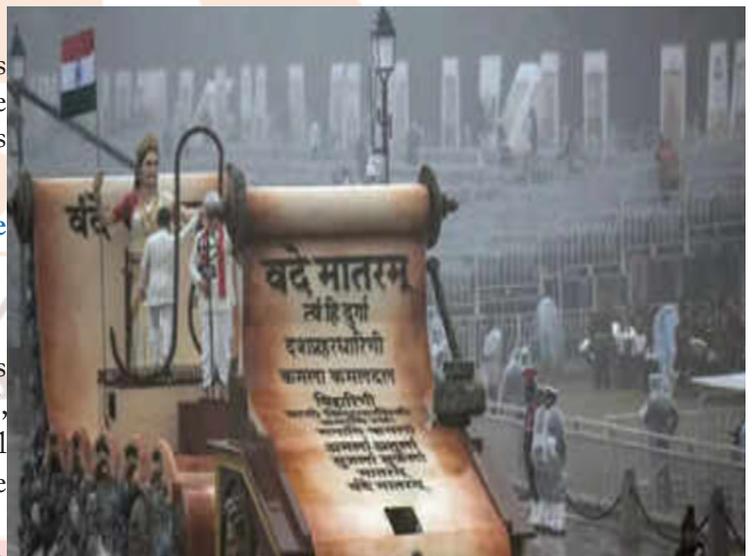
Key Features of the Guidelines:

Official Version & Duration:

- All six stanzas must be sung as the official version.
- Total duration prescribed: 3 minutes and 10 seconds.

Mandatory Occasions at the Union Level:

- To be played at civil investiture ceremonies and official state functions.
- To be played upon arrival and departure of the President of India.
- Before and after the President's address broadcast on Akashwani and Doordarshan.

State-Level Functions:

- To be played during arrival and departure of Governors or Lieutenant Governors at official state functions.

Cultural and Flag-Hoisting Events:

- Mandatory group singing at cultural events and occasions involving flag hoisting.
- Morning assemblies of all schools must incorporate group singing.

Protocols During Rendition:

- Audience must stand in attention posture when the song is played.
- Exception: Not mandatory in cinema halls when played as part of films or newsreels.
- A drumroll (mridang/trumpet) to precede the song.
- In marching drills, seven preparatory steps before commencement.

Informal Events:

- May be sung at informal functions attended by ministers.

Significance:

- Cultural Reaffirmation: Reinforces the historic and symbolic importance of Vande Mataram in India's freedom movement.
- Standardisation of Protocol: Provides uniform guidelines across Union and State functions to avoid ambiguity.
- National Integration: Promotes collective participation in national symbols through schools and public events.

NITI Aayog Study: Scenarios Towards Viksit Bharat and Net Zero (Waste Sector)

Context:

NITI Aayog released a landmark series of 11 reports detailing India's first government-led integrated study to align the Viksit Bharat 2047 vision with the Net Zero 2070 climate commitment.

- Volume 8 of this series specifically provides a strategic roadmap for transforming the waste sector into a resource recovery powerhouse.
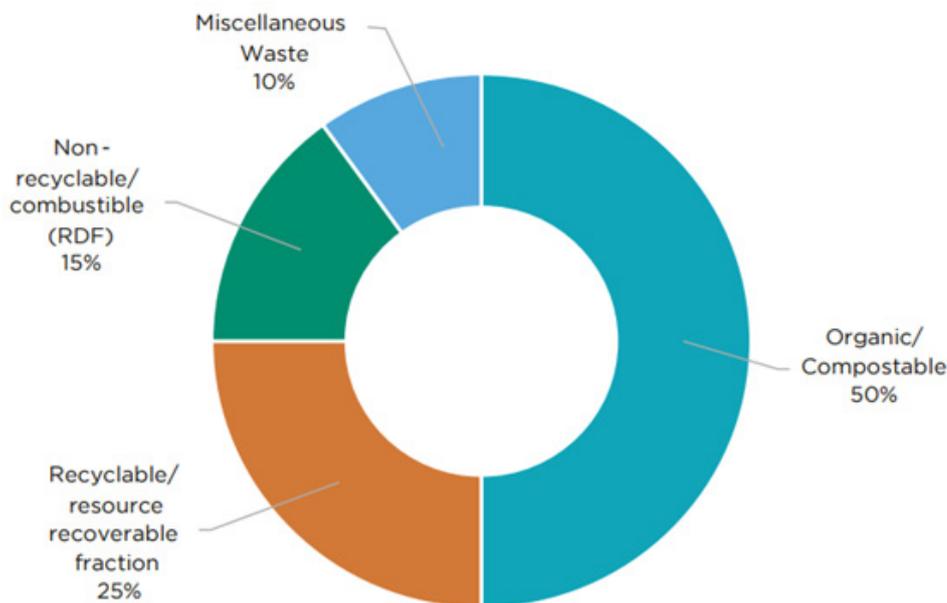
Figure 2.1: Composition of solid waste in India, 2020

About NITI Aayog Study: Scenarios Towards Viksit Bharat and Net Zero (Waste Sector)

What it is?

- The study entails a scenario-based analytical modelling exercise developed by 10 inter-ministerial working groups over 18 months.
- It evaluates "Current Policy" versus "Net Zero" pathways to ensure economic growth is decoupled from greenhouse gas (GHG) emissions.

- For the waste sector, the report emphasizes bridging structural gaps through universal collection, 100% door-to-door segregation, and the large-scale adoption of bio-methanation.

Overview of the Waste Sector in India:

- Emission Growth: The waste sector's GHG emissions grew by 226% between 1994 and 2020 due to rapid urbanization and industrial activities.
- Current Contribution: In 2020, the waste sector contributed approximately 76 MtCO2e, making it the fourth-largest contributor to India's overall emissions.
- Daily Generation: India currently produces around 170,000 tonnes of municipal solid waste (MSW) every day, totaling roughly 62 million tonnes annually.
- Recycling Inefficiency: While India generates nearly 6.2 MMT of e-waste annually, only 18% of the extractable value is currently recovered due to informal sector inefficiencies.
- Economic Opportunity: Processing just 50% of wet waste through bio-methanation could contribute 2,460 crore annually to the economy.
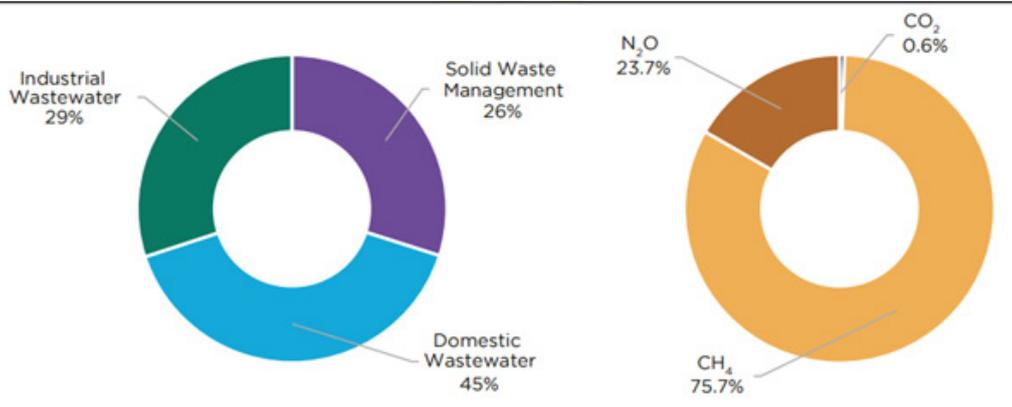
Figure 2.2: Subsector-wise share of GHG emissions in India's waste sector in 2020

Figure 2.3: Share of green house gases in India's waste sector emissions in 2020

Current Trajectory of Waste:

- Massive Generation Surge: Annual waste generation is projected to jump from 62 million tonnes currently to 165 million tonnes by 2030 and 436 million tonnes by 2050.

E.g. Metros like Delhi struggle with rising waste, where legacy dumpsites like Ghazipur continue to expand despite remediation efforts.

- High Organic Methane Potential: Indian MSW contains 40-60% organic material, which leads to massive methane leaks in unscientific landfills.

E.g. Poorly managed landfills in Mumbai and Chennai often experience spontaneous fires due to trapped methane gas from decomposing organic matter.

- Rising E-Waste and Battery Volumes: E-waste is expected to rise to 14 MMT by 2030, while Lithium-ion battery spent volumes are projected to rise ninefold.

E.g. The rapid adoption of Electric Vehicles (EVs) in states like Karnataka and Maharashtra is creating a surge in battery waste that current facilities cannot handle.

- Increasing Construction and Demolition (C&D) Waste: India generates 10–12 million tonnes of C&D waste annually, much of which is dumped illegally.

E.g. Rapid infrastructure expansion in Bengaluru has led to C&D waste being dumped in lake beds, causing urban flooding during monsoons.

- Steady Growth in Industrial Effluents: Industrial wastewater emissions are rising sharply as manufacturing expands under Make in India.

E.g. Industrial clusters in Gujarat and Tamil Nadu face increasing pressure to adopt zero-liquid discharge systems to prevent groundwater contamination.

Challenges in the Waste Sector:

- Limited Processing Capacity: India currently loses thousands of crores because formal recycling systems cannot absorb the pace of waste generation.

E.g. Only 10% of e-waste is processed through authorized channels, with the rest handled by unregulated informal workers in places like Moradabad.

- Inefficient Source Segregation: A lack of door-to-door segregation ruins the quality of recyclables and increases processing costs.

E.g. In many tier-2 cities, dry and wet waste are still mixed in a single bin, making bio-methanation plants technically unfeasible.

- Lack of Quality Standards: There are no national standards for many recycled products, leading to a loss of revenue.

E.g. The waste tyre sector loses roughly 7,500 crore in revenue annually because recycled rubber lacks the certification needed for high-value industrial use.

- Urban-Rural Disparity: While urban areas face a scale problem, rural regions struggle with a total absence of organized collection systems.

E.g. Villages in Uttar Pradesh and Bihar often resort to open burning of plastic waste due to a lack of municipal pick-up services.

- Workforce and Skill Gaps: The transition to a circular economy is hindered by a lack of skilled workers and a fragmented informal sector.

E.g. Informal scrap dealers in Jaipur lack the technology and safety training required to safely extract rare earth metals from modern electronics.

NITI Aayog Recommendations:

- Universal Collection: Achieve 100% door-to-door solid waste collection and treatment of all collected wastewater by 2047.
- Waste-to-Resource: Transition from simple disposal to high-value recovery, transforming waste into Bio-CNG, compost, and treated wastewater.
- Policy Upheaval: Ban the pyrolysis of imported end-of-life tyres to encourage high-value domestic recycling and prevent environmental damage.
- Circular Economy Integration: Formalize the informal sector and strengthen the Extended Producer Responsibility (EPR) framework for batteries and e-waste.
- Behavioral Change: Leverage Mission LiFE to drive citizen participation in source segregation as a national movement (Jan Andolan).

Conclusion:

NITI Aayog's 2026 reports clarify that reaching Net Zero by 2070 is a strategic economic necessity rather than just an environmental goal. By viewing waste as embodied energy and bridging structural gaps through technology and circularity, India can secure its material supply chains and boost its GDP. Achieving these targets will require a massive shift in urban governance and active participation from every Indian household.

The States and the 16th Finance Commission

Context:

The 16th FC is in the news because it has submitted its recommendations for the 2026-31 period, introducing a landmark "Contribution to GDP" criterion and enforcing strict fiscal discipline on States by capping deficits and ending off-budget borrowings.

The share for States

Till the 13th FC (2010-2015), the devolution involved specific transfers for Centrally Sponsored Schemes (CSS) with extensive conditionalities

Table 1: Criteria for horizontal devolution amongst States

Criteria	13th FC 2010-15	14th FC 2015-20	15th FC 2020-26	16th FC 2026-31
Income distance	47.5	50	45	42.5
Population (1971)	25	17.5	-	
Population (2011)	-	10	15	17.5
Area	10	15	15	10
Forests	-	7.5	10	10
Fiscal discipline	17.5	-	-	
Demographic performance	-	-	12.5	10
Tax effort	-	-	2.5	
State's contribution to GDP				10
Total	**100**	**100**	**100**	**100**

About The States and the 16th Finance Commission:

What it is?

- The Finance Commission is a constitutional body (Article 280) that recommends how the Divisible Pool of central taxes should be shared between the Union and the States (Vertical Devolution) and among the States themselves (Horizontal Devolution).

Taxes Shared: These include Corporation Tax, Personal Income Tax, Central GST (CGST), and the Centre's share of Integrated GST (IGST).

Demands of the States:

- Higher Vertical Share: 18 States demanded an increase from 41% to 50% to meet rising welfare costs.

E.g. Kerala has repeatedly cited its high second-generation expenditures in health and education as a reason for needing a larger share of the tax pool.

- Inclusion of Cess/Surcharge: States demanded that cesses (like the Health and Education Cess) be included in the divisible pool.

E.g. Tamil Nadu argued that the Centre's increasing reliance on cesses reduces the effective share States receive to below 30%.

- Reward for Efficiency: Industrialised States demanded that GDP Contribution be a factor in horizontal distribution.

E.g. Maharashtra and Gujarat, contributing nearly 25% of India's GDP combined, argued they face higher urban infrastructure costs due to rapid industrialisation.

- Flexible Grants: States asked for fewer tied grants and more unconditional transfers.

E.g. Karnataka pointed out that rigid Centrally Sponsored Schemes (CSS) often don't align with the specific needs of a highly urbanised state.

Major Recommendations of the 16th FC:

- Vertical Devolution: Retained at 41% for the period 2026-31.
- New Horizontal Criterion: Introduced "Contribution to GDP" with a 10% weight, rewarding states with higher economic output.
- Fiscal Deficit Caps: States' fiscal deficit is capped strictly at 3% of GSDP.
- End of Off-Budget Borrowings: All liabilities of state-owned entities must now be shown in the main State budget.
- Discom Reforms: Recommended the privatisation of DISCOMs (Power Distribution Companies) to reduce state debt.
- Local Body Grants: Recommended 9.47 lakh crore for local bodies and disaster management, but discontinued state-specific/sector-specific grants.

Positives of the Recommendations:

- **Reward for Growth:** The GDP contribution criterion incentivises states to improve their business environment.

E.g. Tamil Nadu and Karnataka are expected to see a marginal rise in their shares due to their high industrial output.

- **Transparency in Debt:** Ending off-budget borrowings ensures a true picture of a state's financial health.

E.g. Telangana and Andhra Pradesh, which used corporations to borrow heavily, will now have more transparent debt levels.

- **Urban Focus:** New Urbanisation Premium grants help cities manage rapid growth.

E.g. Cities like Ahmedabad or Pune can use these for integrating peri-urban areas into formal city planning.

- **Forest Protection:** Rewarding the increase in forest cover (not just existing cover) promotes active conservation.

E.g. States like Chhattisgarh or Madhya Pradesh are incentivised to expand green cover beyond their current baselines.

Negatives of the Recommendations:

- **Vertical Stagnation:** Keeping the share at 41% ignores the States' plea for more fiscal space.

E.g. States like Bihar struggle to fund basic infrastructure without a higher percentage of the central tax pool.

- **Penalising Welfare:** The warning against unconditional cash transfers is seen as interfering with state policy.

E.g. Schemes like Gruha Lakshmi (Karnataka) or Majhi Ladki Bahin (Maharashtra) might face funding scrutiny under these new guidelines.

- **One-Size-Fits-All Power Reforms:** Mandatory DISCOM privatisation may not work in all political contexts.

E.g. In Punjab, where free power to farmers is a sensitive issue, forced privatisation could lead to significant social unrest.

- **Equity Concerns:** Reducing the weight of Income Distance (from 45% to 42.5%) may hurt the poorest states.

E.g. Uttar Pradesh might see its absolute share decrease slightly to accommodate the rewards given to richer, efficient states.

Conclusion:

The 16th Finance Commission marks a pivot toward Compliance-driven Federalism by prioritizing economic efficiency and fiscal discipline over pure equity. While industrialised states have finally gained recognition for their GDP contributions, the overall fiscal autonomy of States remains under pressure due to the stagnation of the 41% devolution limit and the continued exclusion of cesses.

PAIMANA Web Portal

Context:

The Ministry of Statistics and Programme Implementation has shared updated data in Lok Sabha on the PAIMANA Web Portal, which monitors central infrastructure projects worth 150 crore and above.

About PAIMANA Web Portal:

What It Is?

- PAIMANA (Project Assessment Infrastructure Monitoring and Analytics for Nation-Building) is a web-based monitoring system developed to track ongoing Central Sector Infrastructure Projects costing 150 crore and above.
- It replaces the earlier OCMS-2006 (Online Computerized Monitoring System).

Organisation Involved:

- Developed and managed by the Ministry of Statistics and Programme Implementation (MoSPI).
- Integrated with the Department for Promotion of Industry and Internal Trade (DPIIT) Integrated Project Monitoring Portal (IPMP) through APIs.

Key Features:

- One Data One Entry Principle: Automatic data flow from IPMP to PAIMANA via APIs, reducing duplication.
- Covers High-Value Projects: Tracks projects costing 150 crore and above across 17 Ministries.
- Real-Time Monitoring: Ministries and implementing agencies update progress digitally.
- Reduced Manual Entry: Around 60% of projects in major sectors (Roads, Petroleum, Coal) auto-updated.

Official Secrets Act, 1923

Context:

The Ministry of Defence is framing fresh guidelines for serving and retired armed forces personnel regarding publication of books, following controversy over the unpublished memoir of former Army Chief M. M. Naravane.

- The proposed framework will incorporate provisions of the Official Secrets Act, 1923, which continues to apply even after retirement.

About Official Secrets Act, 1923:

What it is?

- The Official Secrets Act, 1923 is a colonial-era law enacted to consolidate and amend laws relating to protection of official information, particularly concerning national security and state interests.

Aim:

- To safeguard the sovereignty, integrity, and security of the State.
- To prevent espionage, unauthorized disclosure, and wrongful communication of classified information.
- Who are covered?
- The Official Secrets Act, 1923 applies to all persons, including government servants, defence personnel, private individuals, and companies, and extends to Indian citizens even outside India.
- It also covers those holding or having held office under Government and anyone in possession of classified or sensitive official information.

Key Features:

- Penalty for Spying (Section 3): Criminalizes approaching prohibited places, making sketches, or collecting information to aid an enemy; punishment may extend up to 14 years in sensitive defence cases.
- Communication with Foreign Agents (Section 4): Contact or association with foreign agents can be used as evidence in prosecution for offences against State security.
- Wrongful Communication of Information (Section 5): Punishes unauthorized sharing, retention, or misuse of official codes, documents, or information affecting sovereignty or security.
- Protection of Prohibited Places: Defines "prohibited places" including defence establishments, military infrastructure, and other notified sensitive installations.
- Search and Seizure Powers (Section 11): Empowers magistrates and, in emergencies, senior police officers to issue search warrants in suspected offences.
- Restriction on Trial (Section 13): Courts can take cognizance only upon complaint authorized by the appropriate Government, ensuring executive oversight.
- Exclusion of Public Proceedings (Section 14): Courts may exclude the public during trial if publication of evidence may prejudice State security.

Significance:

- Acts as a foundational national security legislation protecting classified defence and strategic information.

- Applies for life, including to retired officials and armed forces personnel.
- Balances freedom of expression with national security considerations.

Complaints Against Judges in India

Context:

The Union Law Minister informed the Lok Sabha that the office of the Chief Justice of India received 8,630 complaints against sitting judges between 2016 and 2025.

About Complaints Against Judges in India:

What it is?

- Complaints against judges of the Supreme Court and High Courts relate to allegations of corruption, sexual misconduct, abuse of authority, or serious impropriety.

Key Data & Facts (2016–2025):

- Total Complaints: 8,630 complaints received by the CJI's office.

Year-wise Trends:

- Mechanism: Complaints can also be routed through CPGRAMS and are forwarded to the CJI or respective High Court Chief Justices.
- Legal Framework: Removal of judges is governed by Articles 124(4) and 217 of the Constitution and the Judges (Inquiry) Act, 1968, requiring a special majority in Parliament.

Court scrutiny

Under the judiciary's in-house mechanism, complaints against judges are handled internally by the CJI and Chief Justices of the High Courts, with no public disclosure on outcomes

Number of complaints received in last 10 years

Year	Complaints
2016	729
2017	682
2018	717
2019	1,037
2020	518
2021	686
2022	1,012
2023	977
2024	1,170
2025	1,102

Significance:

- Judicial Accountability: Rising complaints highlight the importance of maintaining public trust in the higher judiciary.
- Transparency Gap: Lack of publicly available data on action taken fuels concerns over opacity in the in-house procedure.
- Institutional Credibility: Ensuring ethical conduct is central to upholding judicial independence and rule of law.

Bridging a divide with an Indian Scientific Service

Context:

The proposal for an Indian Scientific Service (ISS) is in the spotlight following the Economic Survey 2025-26 and recent high-level meetings of the Empowered Technology Group, which highlighted the need for a specialized cadre to manage India's Deep-Tech and AI-first governance transition.

About Bridging a divide with an Indian Scientific Service:

What is the Indian Scientific Service (ISS)?

The ISS is envisioned as a permanent, all-India specialized cadre of scientists and technocrats. Unlike the generalist Indian Administrative Service (IAS), the ISS would:

- Integrate scientific expertise directly into the decision-making hierarchy of ministries.
- Operate under distinct service rules that prioritize scientific integrity and peer review over traditional administrative neutrality.
- Provide a structured career path for researchers to contribute to policy without being stifled by colonial-era conduct rules.

Key Trends in India's Science & Technology (2025-26):

1. Innovation Ascent: India has climbed to 38th rank in the Global Innovation Index (GII) 2025, leading the lower-middle-income group for 15 consecutive years.

2. R&D Stagnation: Despite growth, India's Gross Expenditure on R&D (GERD) remains at 0.64% of GDP, significantly lower than the US (3.48%) or South Korea (4.91%).

3. Patent Surge: Patent applications nearly doubled between 2020 and 2025, with India now ranking 6th globally in total patents filed.

4. Deep-Tech Focus: The government has operationalized mega-missions including the National Quantum Mission (6,003 crore) and the IndiaAI Mission, shifting focus from services to high-end hardware and IP creation.

The Need for a Dedicated ISS:

- Complexity of Modern Governance: Generalists often lack the technical depth to regulate emerging sectors like Bio-technology or AI.

E.g. The rapid drafting of the Digital India Act 2025 required deep understanding of algorithmic bias that standard administrative training does not cover.

- Bridging the Valley of Death: India struggles to translate lab research (TRL 1-3) into market-ready products (TRL 7-9).

E.g. Despite world-class research in Green Hydrogen, scaling the technology for industrial use has been delayed by fragmented technical oversight.

- Scientific Integrity and Independence: Current rules (CCS Conduct Rules 1964) can penalize scientists for speaking truth to power if it contradicts policy.

E.g. During recent Himalayan ecological crises, scientists often faced bureaucratic hurdles in officially recording environmental warnings that challenged infrastructure projects.

- Global Competitiveness: To lead in global standards (G2G certifications), India needs Scientist-Diplomats.

E.g. Negotiating Semiconductor supply chains with the US and EU requires negotiators who understand lithography and material sciences at a granular level.

- Long-term Foresight: Administrative roles are often rotating and short-term, whereas scientific challenges require decades of continuity.

E.g. The National Supercomputing Mission requires a decade-long roadmap that transcends the typical 3-year tenure of a Joint Secretary.

Best Global Practices:

1. United States (Scientific Integrity Policies): US federal agencies have formal policies that protect scientists from political interference and ensure that data is not altered for political convenience.

2. United Kingdom (Government Science & Engineering Profession): The UK maintains a dedicated GSEP cadre with over 10,000 members across government, ensuring that the Chief Scientific Adviser in every ministry has a structured team of specialists.

Challenges Associated with ISS:

- Generalist vs. Specialist Friction: Integration might lead to a turf war over seniority and authority between IAS and ISS officers.

E.g. Historical friction in the Ministry of Health between medical professionals and administrative secretaries often slows down health policy implementation.

- Lateral Entry Resistance: Bringing in high-caliber scientists at mid-career levels faces pushback from traditional service associations.

E.g. The limited success of Lateral Entry initiatives in the early 2020s showed significant internal systemic resistance.

- Salary Parity: Attracting top-tier scientists from the private sector or Silicon Valley is difficult given government pay scales.

E.g. ISRO and DRDO often lose talent to global tech giants offering 5x higher compensation for specialized roles in AI and Rocketry.

- Rigid Promotion Structures: Scientific merit is often ignored in favor of seniority-based promotions.

E.g. Senior scientists in CSIR labs have often expressed frustration over administrative roles being prioritized over active research for career growth.

- Defining the Boundary: Deciding where scientific advice ends and political policy begins is a delicate balance.

E.g. In Climate Change negotiations, a scientist may argue for zero emissions, but the government must balance this with economic growth goals.

Way Ahead:

- Pilot Cadres: Start with high-impact sectors like the Indian Environmental & Ecological Service and Indian Public Health Service.
- Structural Protection: Legally mandate that scientific assessments be placed on the official record, even if the final policy differs.
- Dynamic Pay Scales: Implement performance-linked incentives and market-competitive salaries for the ISS to prevent brain drain.
- Collaborative Training: Conduct joint training programs at the LBSNAA (Mussoorie) for IAS and ISS to foster a Whole-of-Government approach.
- NIDHI-style Grants: Empower ISS officers with financial autonomy to fund high-risk, high-reward indigenous research without multi-layered approvals.

Conclusion:

The creation of an Indian Scientific Service is the final piece in India's transition from a colonial administrative state to a modern, technology-driven power. By institutionalizing expertise, India can ensure that its policies are not just efficient, but also scientifically sound and future-proof. It is time to treat science as the foundation of governance, rather than its decorative accessory.

50th Year of Ending Bonded Labour

Context:

February 2026 marks the 50th anniversary of the Bonded Labour System (Abolition) Act, 1976.

- Despite five decades of the law, recent reports from Odisha highlight a disturbing trend where rescued labourers are slipping back into bondage due to delayed rehabilitation

About 50th Year of Ending Bonded Labour:

What it is?

- The year 2026 commemorates half a century since India took a landmark legal step to eradicate modern-day slavery.
- While the Act successfully criminalized the practice, the milestone is a somber reminder of the gap between legal release and social rehabilitation, as thousands of workers in sectors like brick kilns and poultry farms still face debt-induced exploitation.;

Features of the Bonded Labour System (Abolition) Act, 1976:

- Abolition of Liability: All obligations of a bonded labourer to repay "bonded debt" were extinguished upon the commencement of the Act.
- Release and Freedom: Any labourer trapped in the system stands discharged from the obligation to provide forced labour.
- District Responsibility: The Act mandates District Magistrates (DMs) and Vigilance Committees to identify, release, and rehabilitate labourers.

- **Cognizable Offense:** Forcing someone into bondage is a punishable crime, intended to act as a deterrent for creditors and contractors (Thekedars).
- **Caste and Economic Scope:** The law specifically covers both economic debt-bondage and hereditary, caste-based servitude (such as customary services by barbers or washermen).

Data & Facts on Bonded Labour:

- **National Release Figures:** According to the SECC-2011, approximately 1.65 lakh bonded labourers were legally released across India.
- **Odisha Specifics:** In Odisha alone, over 8,304 bonded labourers (mostly from tribal communities) were identified and rescued as per the last major assessment.
- **Financial Corpus:** Every district is required to maintain a 10 lakh corpus fund for immediate relief; however, nearly 50% of districts in Odisha lack this fund.
- **Rehabilitation Scale:** The 2022 revised Central Scheme provides graded assistance ranging from 1 lakh to 3 lakh depending on the severity of exploitation.
- **Work Hours:** Reports show that labourers in bondage often work 14–15 hours a day in makeshift shelters with restricted movement.

Challenges Associated with the Elimination of Bonded Labour:

- **Relapse into Bondage:** Rescue without immediate financial support forces victims back to their exploiters.

E.g. Panchanan Muduli of Odisha migrated back to a brick kiln just five months after his official rescue because promised help never arrived.

- **Bureaucratic Delays & Accountability:** Coordination gaps between source and destination states stall rehabilitation.

E.g. Labourers rescued in Andhra Pradesh or Telangana often wait years for the Odisha government to process their Release Certificates for financial aid.

- **Lack of Awareness and Monitoring:** Many districts fail to conduct the mandatory periodic surveys to identify hidden bondage.

E.g. The last comprehensive data source remains the SECC-2011, indicating a 15-year gap in updated national statistics on bonded labour.

- **Caste-Based Institutionalization:** Customary servitude is often denied by local officials, leading to the revocation of release certificates.

E.g. In Puri district, certificates of 1,283 people were revoked because officials claimed they stopped performing services, failing to recognize the systemic nature of caste-bondage.

- **Debt Trap & Lack of Alternatives:** Rescued workers lack land or skill-based livelihoods in their home villages.

E.g. Jayaraj Jagat received 19,000 in assistance but was forced to migrate again by 2017 because there were no sustainable income opportunities in his village.

Way Ahead:

- **Immediate Relief:** Ensure every district activates its 10 lakh corpus fund to provide spot-payment to rescued labourers within 48 hours.
- **Convergence of Schemes:** Link survivors to MGNREGS, PMAY (Housing), and Ration Cards immediately upon rescue to prevent migration.
- **Digital Tracking:** Implement a real-time inter-state tracking portal to monitor the status of release certificates and fund transfers between states.
- **Skill Development:** Provide handholding support and vocational training (e.g., tailoring, masonry) to help survivors start local small businesses.
- **Strengthening Vigilance Committees:** Reconstitute District and Sub-divisional Vigilance Committees with active participation from Civil Society Organizations (CSOs).

Conclusion:

The 50th anniversary of the Bonded Labour Abolition Act serves as a call for Rehabilitation, not just Rescue. Legal

freedom is meaningless without economic dignity, and unless the state addresses the underlying debt and caste barriers, the cycle of bondage will continue. India must shift from a reactive rescue-only approach to a proactive, welfare-driven model of permanent reintegration.

National Commission for Scheduled Tribes (NCST)

Context:

The National Commission for Scheduled Tribes (NCST) celebrated its 23rd Foundation Day in New Delhi, highlighting its role in safeguarding tribal rights and promoting inclusive development.

About National Commission for Scheduled Tribes (NCST):

What it is?

- The National Commission for Scheduled Tribes (NCST) is a constitutional body established under Article 338A of the Constitution of India to protect, monitor and promote the rights and welfare of Scheduled Tribes (STs).
- It acts as a watchdog institution ensuring implementation of constitutional safeguards and addressing grievances related to tribal communities.

Established in:

- Established in 2004 following the Constitution (89th Amendment) Act, 2003.
- It separated tribal affairs from the earlier combined commission for Scheduled Castes and Scheduled Tribes to ensure focused attention on tribal issues.

History:

- 1978: Government set up a multi-member Commission for SCs & STs.
- 1992: Constitutional status granted through the 65th Constitutional Amendment, forming the National Commission for SCs & STs.
- 2003–04: 89th Constitutional Amendment bifurcated the body into:
- National Commission for Scheduled Castes (NCSC)
- National Commission for Scheduled Tribes (NCST)

Members:

The NCST consists of:

- Chairperson
- Vice-Chairperson
- Three Members
- All are appointed by the President of India and generally include persons with expertise in tribal administration, social justice and policy.

Key Functions:

- Monitoring safeguards: Investigates and monitors constitutional and legal safeguards provided to Scheduled Tribes and evaluates their effectiveness.
- Inquiry into complaints: Examines complaints regarding deprivation of rights, land alienation, atrocities, or denial of benefits meant for tribal communities.
- Advisory role in development planning: Participates in policy formulation and advises governments on socio-economic development programmes for STs.
- Reporting to the President: Submits annual and special reports to the President regarding implementation of safeguards and policy recommendations.
- Civil court powers: While investigating cases, the Commission has powers similar to a civil court such as summoning individuals, calling documents, and recording evidence.
- Policy consultation: Union and State Governments are expected to consult the Commission on major policy matters affecting Scheduled Tribes.

Union Cabinet approves renaming Kerala as Keralam

Context:

The Union Cabinet has approved the proposal to rename the State of Kerala as Keralam, following resolutions passed by the Kerala Legislative Assembly in 2023 and 2024.

About Union Cabinet approves renaming Kerala as Keralam:

What it is?

- The Union Cabinet has approved the proposal to alter the official name of the State of Kerala to Keralam.
- The change seeks to replace the English-adopted constitutional term "Kerala" with the traditional Malayalam usage "Keralam."
- After Cabinet approval, the Kerala (Alteration of Name) Bill, 2026 will follow the constitutional process before becoming law.

Articles associated:

- Article 3 of the Constitution: Empowers Parliament to form new states or alter areas, boundaries, or names of existing states.

Proviso to Article 3:

- A Bill altering a state's name can be introduced only on the recommendation of the President.
- The President must refer the Bill to the concerned State Legislature to seek its views.
- First Schedule of the Constitution: Contains the list and names of states and Union Territories; amendment required here for renaming.

Procedure for renaming a state:

- State Legislature Resolution: Kerala Assembly passed resolutions requesting the name change.
- Examination by Union Government: Ministry of Home Affairs scrutinizes the proposal and consults relevant ministries/agencies.
- Union Cabinet Approval: Cabinet clears the proposal for legislative action.
- President's Reference: President refers the Bill to the State Legislature for its opinion (Article 3 proviso).
- Parliamentary Approval: Bill introduced in Parliament after Presidential recommendation and passed by both Houses.
- Notification & Amendment: First Schedule amended; new name comes into legal effect.

Reason for the change:

- The state is called "Keralam" in Malayalam, while the Constitution records it as "Kerala."
- The demand reflects linguistic identity and the legacy of the Aikya Kerala movement, which sought unification of Malayalam-speaking regions.
- The Assembly argued that states formed on linguistic lines (1956) should reflect native linguistic nomenclature.

The Cycle of Deprivation and Affluence

Context:

A recent longitudinal analysis of income mobility in India between 2014 and 2025 reveals a troubling trend where downward mobility is outpacing upward climbs.

- The study highlights that the share of households slipping into lower income brackets nearly doubled, reaching 8% by 2025.

About The Cycle of Deprivation and Affluence:

What it is?

- The Cycle of Deprivation and Affluence refers to the continuous and often volatile movement of households across different income strata.
- It captures income mobility—the ability of a family to improve its financial standing (upward mobility) or its vulnerability to economic shocks that push it into poverty (downward mobility).

Key Data & Facts:

- Doubling of Downward Mobility: The percentage of households moving to a lower income group rose from 14% in 2015 to 26.8% in 2025.
- Rural Distress: By 2025, nearly 29% of rural households were worse off than they were in 2014, significantly higher than their urban counterparts.
- Stagnant Middle: The share of households remaining in the same income group fell from 70% to below 50%, indicating a massive social churn.

Key Reasons for the Rise of Inequality:

- Informal Sector Neglect: A lack of a coherent strategy to revive agriculture and small-scale industries has left the bulk of the workforce vulnerable.

E.g. The persistent distress in the MSME sector post-pandemic has limited the living wage opportunities for millions of semi-skilled workers.

- Impact of COVID-19: Inept handling of the pandemic's economic aftermath caused a disruption that persisted long after the health crisis ended.

E.g. The K-shaped recovery saw tech and finance sectors boom while service-sector workers in tourism and retail faced permanent income shifts.

- Educational Barriers: Unequal access to quality higher education prevents disadvantaged groups from entering high-productivity sectors.

E.g. The reliance on precarious contractual teaching in state universities has diluted the quality of education for non-elite students.

- Social Discrimination: Entrenched biases against Muslims and SCs restrict their upward mobility pathways.

E.g. Low representation of marginalized groups in senior corporate leadership roles reflects the glass ceiling in the private sector.

- Urban-Centric Growth: Economic gains are concentrated in major metropolitan hubs, leaving the rural heartland exposed to volatility.

E.g. The boom in Real Estate and High-End Tech in cities like Bengaluru contrasts sharply with stagnant crop prices in the agrarian belts of UP and Bihar.

Challenges Associated with Reduced Mobility

- Social Instability: When more households slip down the ladder than climb up, frustration replaces aspiration, leading to civil unrest.

E.g. Frequent protests over government job recruitment (like the Agnipath or Railway exams) signal deep-seated youth anxiety.

- Human Development Setbacks: Downward mobility is directly linked to increased infant mortality and morbidity.

E.g. Higher malnutrition rates in districts with high income volatility suggest that families cut back on essential proteins when income dips.

- Weak Aggregate Demand: A population trapped in survival mode cannot sustain the consumption levels needed for 8% GDP growth.

E.g. The anemic sales of entry-level two-wheelers compared to luxury SUVs indicates a hollowed-out middle-class purchasing power.

- Entrenched Poverty Traps: Inequality makes it harder for the next generation to break the cycle through merit alone.

E.g. The rising cost of private coaching for competitive exams makes merit an affordable luxury for the affluent only.

- Policy Paralysis: Relying on headline growth figures masks the micro-level suffering of a quarter of the population.

E.g. Claims of falling multidimensional poverty sit uneasily with the reality of 80 crore people requiring free food grains (PMGKAY).

Way Ahead:

- Strengthen Public Infrastructure: Prioritize high-quality public health and education to reduce out-of-pocket expenses that trigger downward mobility.
- Revive the Informal Sector: Implement targeted credit and technology support for MSMEs to create stable, employment-intensive growth.
- Social Protection Reform: Transition from honoraria-based community work to formal, salaried roles with social security for frontline workers.
- Address Spatial Inequality: Invest in tier-2 and tier-3 cities to de-congest metros and provide localized mobility pathways for rural youth.
- Anti-Discrimination Frameworks: Actively monitor and address caste and religious biases in the labor market to ensure Equal Pay for Equal Work.

Conclusion:

The data from 2014-25 serves as a stark reminder that headline GDP growth is an insufficient measure of national well-being if one in four households is slipping into deprivation. To maintain social harmony, India must shift from a model of elite-led indulgence to one of broad-based inclusion that rewards resilience with actual upward mobility.

Government Bank Dashboard & Manual Initiative

Context:

India's Controller General of Accounts (CGA), launched the Government Bank Dashboard and the Government Bank Manual.

- These initiatives are designed to transition government banking from reactive oversight to real-time, proactive monitoring to safeguard public funds.

About Government Bank Dashboard & Manual Initiative:

What it is?

- This is a dual-component reform consisting of a real-time digital monitoring platform (Dashboard) and a standardized rulebook (Manual).

Aim:

- The primary objective is to mitigate operational risks and reduce ambiguity in handling government funds.

- It aims to institutionalize uniform procedures across all banks to ensure that public money is handled with maximum accountability and minimal delay.

Key Features:

- Real-Time Monitoring: Tracks critical KPIs such as remittance timelines, transaction success rates, and scroll compliance.
- Standardized Framework: The Manual defines clear operational procedures, reporting obligations, and strict reconciliation timelines.
- Proactive Oversight: Shifts the focus from post-facto (after the fact) corrections to real-time performance management.
- Service-Level Tracking: Monitors how well banks adhere to established service standards for government business.
- Future Integration: Prepared for the next phase involving Advanced Analytics and Cybersecurity safeguards.

Shaping the Future of CSR

Context:

Corporate Social Responsibility (CSR) is undergoing a strategic shift globally and in India, with 2026 projected as a turning point where CSR moves from peripheral philanthropy to a core business imperative.

About Shaping the Future of CSR:

What is CSR?

- CSR is a business model where companies integrate social and environmental concerns into their operations and interactions with stakeholders.It represents a commitment to contribute to sustainable economic development while improving the quality of life for the workforce, local communities, and society at large.

Key Features of CSR in India:

- Mandatory Status: India is the first country to make CSR mandatory under Section 135 of the Companies Act, 2013, requiring companies with a certain turnover/profit to spend 2% of their average net profit.
- Board-Driven: The CSR policy is overseen by a Board-level Committee, ensuring high-level accountability.
- Schedule VII Framework: Spending is restricted to specific activities such as education, healthcare, poverty alleviation, and environmental sustainability.
- Unspent Funds Rule: Companies must transfer unspent CSR funds to specified government funds or Unspent CSR Accounts for ongoing projects.

How the CSR Landscape is Changing?

- From Philanthropy to Business Value: CSR is now linked to measurable ROI, such as building a future talent pipeline through skill development.

E.g. Tata Consultancy Services (TCS) uses its goIT program to teach coding to students, directly addressing the tech talent shortage in India.

- Focus on AI Literacy: With AI-driven layoffs rising, CSR is pivoting toward upskilling vulnerable communities to work alongside new tech.

E.g. Infosys Foundation has expanded its digital literacy programs to include AI training for rural teachers across Karnataka.

- Employee-Led Selection: Retention of Gen Z talent is now tied to whether employees feel their company's social stance matches their personal values.

E.g. Wipro allows employees to nominate local NGOs for grants, resulting in higher internal engagement scores in 2025-26.

- Environmental Functionality over Beautification: Companies are moving away from simple tree plantation to restoring entire watersheds and ecosystems.

E.g. Reliance Industries has shifted from park maintenance to large-scale mangrove restoration along the Gujarat coast to act as a carbon sink.

- Direct Livelihood Linking: CSR projects now prioritize creating sustainable income sources rather than one-time donations.

E.g. Hindustan Unilever (HUL)'s Project Shakti continues to empower rural women as micro-entrepreneurs, integrating them into the supply chain.

Initiatives Taken:

- National CSR Data Portal: A government initiative to ensure transparency by making all corporate spending data accessible to the public.
- Impact Assessment Mandate: Recent amendments require companies with large CSR budgets to conduct independent third-party assessments of their projects.
- Social Stock Exchange (SSE): India has launched the SSE to allow social enterprises and NGOs to raise capital, bridging the gap between CSR funds and impact.

Challenges to CSR:

- Compliance over Conscience: Many firms treat CSR as a checkbox legal requirement rather than a moral duty.

E.g. Several firms in 2025 were penalized for greenwashing – reporting environmental spend that had no actual ecological impact.

- Geographical Imbalance: CSR funds tend to flow to industrialized states (Maharashtra, Gujarat), leaving backward regions underserved.

E.g. In the 2024-25 fiscal year, Aspirational Districts in Eastern India received less than 5% of total national CSR spending.

- Capacity Constraints in NGOs: Many local NGOs lack the technical skills (GIS, AI, Impact Reporting) required by modern corporate partners.

E.g. Small-scale NGOs in Odisha struggled to partner with tech firms in 2025 due to a lack of digital transparency tools.

- Ethical Risks of AI: Using AI for grant selection can bake in biases if the data used is not diverse or representative.

E.g. An AI tool used by a major financial firm for scholarship selection was flagged in 2026 for inadvertently favoring urban applicants over rural ones.

- Short-termism: A focus on annual 2% spending often prevents long-term, multi-year projects that require sustained funding.

E.g. Many water-tank projects in Rajasthan failed within two years because CSR budgets did not cover long-term maintenance.

Way Forward:

- Collaborative CSR: Encourage companies to pool funds for mega-projects that address systemic issues like climate change or pandemic preparedness.
- Focus on 'Aspirational Districts': The government should provide incentives or mandates to direct a percentage of CSR funds toward the most underdeveloped regions.
- Human-in-the-Loop AI: Ensure that all AI-driven CSR decisions are audited by human experts to maintain equity and ethics.
- Integrating ESG: Move toward Environmental, Social, and Governance (ESG) reporting, where social impact is a core part of the company's financial valuation.
- Strengthening Monitoring: Invest in satellite monitoring and blockchain to track the real-time progress of rural infrastructure projects.

Conclusion:

By 2026, CSR has evolved into a powerful tool for national development that goes beyond simple charity. By aligning corporate goals with local community needs and ethical AI usage, businesses can drive a more equitable future. Ultimately, the success of India's social fabric depends on moving from mandatory compliance to authentic social leadership.

GEOGRAPHY

Dal Lake

Context:

The Jammu & Kashmir government has shelved the ₹416.72-crore Dal Lake restoration plan and proposed an in-situ conservation strategy allowing dwellers to remain within the lake ecosystem.

About Dal Lake:

What it is?

- Dal Lake is a famous urban freshwater lake and wetland ecosystem, often called the Jewel in the crown of Kashmir. It is central to tourism, fisheries, floating agriculture, and the cultural identity of Kashmir.

Location:

- Located in Srinagar, the summer capital of Jammu and Kashmir.
- Surrounded by Mughal gardens such as Shalimar Bagh and Nishat Bagh.

Origin & Formation:

- Dal Lake is part of the Kashmir Valley lacustrine (lake-formed) system, created by tectonic and glacial processes that shaped the Himalayan basin. It forms part of a larger natural wetland complex.

River Connection:

- Hydrologically connected to the Jhelum River system.
- Receives water from inflowing streams and drainage channels from surrounding catchments and drains into the Jhelum through controlled outflows.

Key Features:

- Covers about 18 sq km, forming part of a larger 21 sq km wetland system.
- Divided into four basins: Gagribal, Lokut Dal, Bod Dal, and Nagin.
- Known for floating gardens (Raad) used for vegetable cultivation.
- Famous for houseboats and shikaras, supporting tourism and livelihoods.
- Experiences freezing during severe winters.
- Ecologically important but faces pressures from sewage discharge, encroachment, eutrophication, and declining water circulation.

Continental Mantle Earthquakes

Context:

A Stanford-led study has created the first global map of rare continental mantle earthquakes, identifying 459 such events worldwide.

About Continental Mantle Earthquakes:

What Are Continental Mantle Earthquakes?

- Continental mantle earthquakes are rare seismic events that originate deep within the Earth's mantle beneath continental regions, rather than in the shallow crust where most earthquakes occur.
- Unlike typical crustal earthquakes (10–29 km depth), these quakes occur more than 80 km below the Mohorovičić discontinuity (Moho)—the boundary separating the crust from the mantle.

Where Do They Occur?

- The recent study found clustering beneath tectonically active regions such as:
- The Himalayan collision zone (Indian Plate subducting beneath the Eurasian Plate)
- The Bering Strait region
- Such areas are marked by intense continental collision and lithospheric deformation.

How Do They Originate?

- Tectonic Stress Transfer: Stress from continental collision or crustal earthquakes may penetrate deeper into the mantle, triggering rupture.
- Subduction-Related Processes: In collision zones, the descending plate may retain brittle characteristics at greater depths.
- Thermal & Rheological Variations: Though the mantle is generally semi-solid and ductile, localized cooler or compositionally distinct zones may become brittle enough to fracture.
- Seismic Wave Identification: Scientists distinguished mantle quakes using differences between Sn waves (mantle-travelling) and Lg waves (crustal-travelling) in seismic waveforms.

How Are They Different from Crustal Earthquakes?

Feature	Crustal Earthquakes	Continental Mantle Earthquakes
Depth	10–29 km	>80 km
Location	Within brittle crust	Deep mantle beneath continents
Surface Impact	Strong shaking possible	Minimal surface impact
Frequency	Common	Rare

Impacts and Significance:

- Limited Surface Damage: Due to great depth, these quakes typically do not cause significant surface shaking or destruction.
- Insight into Earth's Interior: Provide new data on mantle structure and stress distribution beneath continents.
- Understanding Mountain Building: Regions like the Himalayas show how deep tectonic processes contribute to orogeny (mountain formation).

ENVIRONMENT

Peacocks

Context:

A pair of peacocks were spotted at an altitude of over 6,000 ft near Manali in Himachal Pradesh, an unusual sight for a species typically found in warmer lowland regions.

About Peacocks:

What is it?

- Peacocks are large, colourful birds of the pheasant family (Phasianidae), collectively called peafowl—the male is a peacock, the female a peahen, and the young are peachicks.
- India's national bird is the Indian or Blue Peacock (Pavo cristatus).

Habitat and distribution:

- Naturally found in warm, semi-arid to moist deciduous forests, grasslands, and agricultural landscapes.
- In India, usually inhabit plains and low hills.
- Typical altitude: up to ~1,000 m, occasionally 1,500 m.
- Recent sightings at ~1,800 m (6,000 ft) in Himachal Pradesh are ecologically unusual.

IUCN conservation status:

- Indian (Blue) Peacock – Least Concern
- Green (Javanese) Peacock – Endangered
- Congo Peacock – Vulnerable

Characteristics:

Physical:

- Males possess a long iridescent train with eye-shaped spots used in courtship displays.
- Strong legs, short rounded wings; capable of short flights and roosting on trees.

Social and behavioural:

- Generally ground-dwelling but roost in trees at night.
- Males form harems during the breeding season.
- Omnivorous: feed on seeds, insects, small reptiles, aiding pest control.

Other ecological traits:

- Sensitive to temperature and habitat changes.
- Known for adaptability, but extreme altitudinal shifts are rare.

Implications of high-altitude sightings:

- Indicator of climate change: Warming temperatures are making higher altitudes more habitable.
- Ecosystem stress signal: Suggests shifts in species distribution in the Himalayas.
- Human–wildlife interaction risks: New habitats may increase conflict and competition.

Turtle Trails

Context:

The Union Budget 2026–27 proposed developing 'turtle trails' along key Olive Ridley nesting sites in Odisha, Karnataka and Kerala to promote eco-tourism.

About Turtle Trails:

What it is?

- 'Turtle trails' refer to regulated eco-tourism pathways and guided experiences near sea turtle nesting beaches, aimed at promoting conservation awareness, community livelihoods and nature-based tourism.

States involved:

- Odisha – Rushikulya (Ganjam) and vicinity of Gahirmatha (Kendrapara)
- Karnataka – Coastal turtle nesting beaches
- Kerala – Key nesting stretches along the Arabian Sea coast

Key features:

- Guided and regulated access to turtle nesting areas, usually during breeding season
- Public awareness and education on marine biodiversity and conservation
- Community participation, involving local fishers, volunteers and NGOs
- Low-impact infrastructure, potentially temporary walkways or observation zones (as proposed)
- Integration with eco-tourism policy, aligned with livelihood generation and sustainable tourism goals

Significance:

- Helps sensitise the public to endangered species like the Olive Ridley sea turtle.
- Can generate alternative income for coastal communities through guided tourism.
- If well-designed, may replace unregulated tourism with scientifically managed access.

Illegal Mining Crisis

Context:

A massive explosion at an illegal rat-hole coal mine in Meghalaya's East Jaintia Hills killed at least 18 labourers, reigniting the national debate over the persistence of banned mining practices and lack of enforcement.

About Illegal Mining Crisis:

What is Rat-Hole Crisis?

- Illegal mining refers to extraction activities conducted without valid licenses, environmental clearances, or in violation of court-imposed bans. In Meghalaya, this primarily takes the form of rat-hole mining—a primitive method where miners dig narrow horizontal tunnels (3–4 feet high) into hillsides or vertical pits.
- Despite a 2014 ban by the National Green Tribunal (NGT) and subsequent Supreme Court upholds, the high market value of low-ash coal continues to drive this unregulated and hazardous industry.

Key Trends and Data:

- Frequency of Mishaps: In the last two months alone, three major incidents occurred in East Jaintia Hills, including a blast in Dec 2025 and a death in Jan 2026.

- Economic Magnitude: Experts estimate that nearly 6 million tonnes of coal are still extracted annually in Meghalaya through illegal means.
- Surveillance Gap: RTI data reveals that state governments (Meghalaya, Jharkhand, Chhattisgarh) ignore nearly 87% of satellite-generated alerts (MSS) regarding illegal mining.
- Vulnerable Workforce: Miners are often migrant labourers from Assam or Nepal, paid roughly 1,500–2,000 per day to risk their lives in unmapped tunnels.
- Persistence of Ban Violations: Over 30,000 illegal rat-hole mines are estimated to exist in Meghalaya as of 2026, twelve years after the initial NGT ban.

Implications of Illegal Mining in India:

- Loss of Human Life: The lack of structural support or ventilation leads to frequent collapses and toxic gas explosions.

E.g. The explosion in Thangsku killed 18 workers instantly, suspected to be caused by unscientific dynamite use in a rat-hole.

- Severe Environmental Degradation: Mining waste and acid mine drainage turn local rivers toxic and acidic.

E.g. The Kopili River in Meghalaya and Assam has seen its water turn bright blue/orange and highly acidic (pH as low as 2-3), killing all aquatic life.

- Revenue Leakage: Illegal operations bypass royalties and taxes, causing massive losses to the state exchequer.

E.g. A 2025 CAG report on mining in Uttar Pradesh identified a financial implication of over 784 crore due to illegal extraction and tax evasion.

- Funding Organized Crime: Unregulated mining is often controlled by local coal mafias who use the proceeds to fuel further criminal activities.

E.g. Activists in Meghalaya, like Agnes Kharshiing, have frequently been attacked by coal syndicates for documenting the illegal transport of coal in 2025.

- Ecological Destabilization: Unscientific digging causes land subsidence and deforestation in biodiversity-hotspots.

E.g. Significant land sinking was reported in Jharia (Jharkhand) in 2025, where illegal scavenging of coal in abandoned mines caused several houses to collapse.

Challenges in Controlling Illegal Mining:

- Politico-Criminal Nexus: Mine owners are often influential figures or backed by local politicians, making local enforcement difficult.

E.g. The High Court-appointed Katakey Committee (2025) noted that periodic reports on illegal mining in Meghalaya were largely ignored by the executive.

- Difficult Terrain and Remote Locations: Many mines are hidden deep in forested hills where drones and satellite surveillance have limited visibility.

E.g. The site of the 2026 Thangsku blast was in a remote, densely forested area, delaying the arrival of NDRF teams by several hours.

- Socio-Economic Dependence: For many local communities, coal is the only viable source of income in the absence of alternative livelihoods.

E.g. Despite the ban, thousands of families in East Jaintia Hills continue to support illegal mining as daily wages are 3x higher than agriculture.

- Ineffective Technological Adoption: While systems like the Mining Surveillance System (MSS) exist, ground-level verification is slow and often compromised.

E.g. RTI records for 2025 showed that out of 56 MSS triggers in Meghalaya, zero resulted in successful prosecution due to lack of ground staff.

- Legal Ambiguity and Grandfathering: Ongoing litigation over pre-ban coal stocks allows illegal miners to pass off fresh coal as old, legally extracted stock.

E.g. The illegal transportation of coal under the guise of old stock was a major point of contention in the Meghalaya High Court hearings in late 2025.

Initiatives Taken:

- Mining Surveillance System (MSS): A satellite-based monitoring system launched to detect unauthorized mining within a 500m radius of existing leases.
- Draft MMDR Amendment Bill 2026: Proposed legislation to introduce stricter penalties and categorize certain illegal mining activities as strategic security threats.
- Justice Katakey Committee: A one-man panel appointed by the High Court to monitor environmental restoration and stop illegal coal transport in the Northeast.
- Ex-Gratia Compensation: Immediate relief of 2 lakh (PMNRF) and 3 lakh (State Govt) announced for families of the 2026 blast victims to mitigate immediate distress.

Way Ahead:

- Satellite-to-Action Mandate: Legally require state police to act on MSS alerts within 48 hours or face departmental inquiries for negligence.
- Scientific Mining Policy: Fast-track the transition to regulated, scientific mining that follows safety norms, as suggested by the Supreme Court.
- Alternative Livelihoods: Invest in Meghalaya's Bioeconomy (2024–2026) and tourism to reduce the local population's dependency on the blood coal economy.
- Use of IoT and Smart Sensors: Install Smart Weighbridges and GPS-tracked trucks to ensure no coal can be transported without a digital transit pass.
- Special Environmental Courts: Establish fast-track courts dedicated to mining violations to break the legal deadlock and penalize coal mafias swiftly.

Conclusion:

The tragic loss of 18 lives in 2026 serves as a grim reminder that bans alone cannot stop illegal mining without rigorous, technology-backed enforcement and political will. India must move beyond post-disaster compensation toward a proactive strategy that replaces hazardous rat-holes with scientific, sustainable, and safe mining practices. The silence of the hills must no longer be broken by the sound of illegal dynamite.

Nature-based Solutions (NbS)

Context:

Nature-based Solutions (NbS) took center stage as the TREESCAPES 2026 Congress concluded in Delhi, highlighting agroforestry's role in climate resilience, alongside the release of the UNEP State of Finance for Nature 2026 report which warned of a massive global investment gap.

About Nature-based Solutions (NbS):

What are they?

- Nature-based Solutions are defined by the IUCN as actions to protect, sustainably manage, and restore natural or modified ecosystems to address societal challenges (like climate change, food security, or water safety) effectively and adaptively.
- They are unique because they provide simultaneous benefits for both human well-being and biodiversity.

Key Data & Stats in NbS:

- Mitigation Potential: NbS can provide up to 37% of the cost-effective CO_2 mitigation needed by 2030 to keep global warming below 2°C.
- Economic Value: Healthy mangroves globally avert over $57 billion in annual flooding damages, protecting over 18 million people.
- Finance Gap: The 2026 UNEP report reveals that for every $1 invested in protecting nature, $30 are spent on nature-negative activities (fossil fuel subsidies, etc.).
- Investment Need: Global NbS investment must triple to $571 billion annually by 2030 to meet climate and land restoration targets.
- India's Green Cover: India currently ranks 9th globally in forest area, with forest and tree cover accounting for approximately 25.17% of its geographical area.

Need for Nature-based Solutions:

- Climate Change Mitigation: NbS act as massive carbon sinks to absorb greenhouse gases.

E.g. India's Ek Ped Maa Ke Naam campaign (2025) led to the planting of 262.4 crore saplings to enhance the national carbon sink.

- Disaster Risk Reduction: Natural barriers like mangroves and wetlands buffer against extreme weather events.

E.g. The MISHTI (Mangrove Initiative for Shoreline Habitats & Tangible Incomes) protects coastal communities from cyclonic storm surges in Odisha and West Bengal.

- Water Security: Restoring watersheds and urban wetlands improves groundwater recharge and filtration.

E.g. In Bengaluru, the rejuvenation of seasonal lake systems (like Jakkur Lake) has significantly improved local water tables and reduced flood risks.

- Sustainable Livelihoods: Ecosystem restoration creates jobs in eco-tourism, sustainable forestry, and organic farming.

E.g. The MGNREGS program increasingly focuses on Natural Resource Management, providing rural employment through pond desilting and afforestation.

- Food Security: Integrating trees into farms (agroforestry) improves soil health and crop resilience.

E.g. The TREESCAPES 2026 initiative emphasizes that agroforestry now accounts for nearly 20% of India's national carbon stocks while supporting marginal farmers.

Challenges to Nature-based Solutions:

- Lack of Standardized Frameworks: Without a common standard, greenwashing or poor project design can occur.

E.g. Some afforestation drives in Central India have been criticized for planting monoculture non-native species (like Eucalyptus) that drain groundwater.

- Financing and Budgetary Constraints: Most NbS projects lack long-term, dedicated funding compared to grey infrastructure.

E.g. Only about 30% of India's current climate policies have explicit budgets allocated for the implementation of nature-based components.

- Complex Governance and Land Tenure: Overlapping jurisdictions between forest, water, and urban departments stall projects.

E.g. Restoring the Aravalli Green Wall (2025-26) faces hurdles due to complex land-use rights across four different states (Delhi, Haryana, Rajasthan, Gujarat).

- Disconnect from Urban Planning: NbS are often treated as add-ons rather than core components of city design.

E.g. Despite the 2024 Bengaluru floods, city developers still prioritize concrete drains over restoring natural blue-green floodplains.

- Knowledge and Expertise Gaps: A lack of site-specific technical data often leads to project failure.

E.g. Mangrove restoration in parts of Tamil Nadu has failed in the past when upstream water flow changes were not technically factored into the design.

Initiatives Taken:

- IUCN Global Standard for NbS: A rigorous framework of 8 criteria to ensure projects are sustainable and benefit both people and planet.
- Aravalli Green Wall Project: A massive 2025 initiative to restore 6.31 million hectares of land to stop desertification in Northwest India.
- Digital CAMPA Reforms: The rollout of the Digital APO Portal (2025) to ensure transparency and real-time monitoring of compensatory afforestation.
- ENACT Initiative: A global partnership (supported by India) to accelerate NbS by integrating them into national climate and biodiversity plans.

Way Ahead:

- Mainstreaming NbS into Infrastructure: Incorporate Blue-Green infrastructure into the PM Gati Shakti framework for all new development.

E.g. Integrating rain gardens and bioswales into the Smart Cities Mission to handle urban runoff more effectively.

- Unlocking Green Finance: Develop Sovereign Forest Bonds and private carbon credit markets to fund large-scale restoration.

E.g. Using the DPDP Act (2023) frameworks to ensure transparent data for carbon credit verification in community forestry.

- Community-Led Governance: Empower local Gram Sabhas and Indigenous groups to lead NbS projects for better survival rates.

E.g. Expanding the Jal Jeevan Mission's women-led water committees to manage local wetland restoration.

- Science-Based Monitoring (MRV): Use satellite imagery and geospatial tools to track the health of restored ecosystems.

E.g. The Meri LiFE portal (2026) now uses digital tracking to ensure the Ek Ped Maa Ke Naam saplings actually survive.

- Scaling Agroforestry: Transition from traditional agriculture to tree-based systems to future-proof rural economies.

E.g. Implementing the roadmap from the 2026 South Asian Agroforestry Congress to reduce India's $7 billion wood import bill.

Conclusion:

Nature-based Solutions represent a shift from fighting nature to partnering with it to solve our most pressing societal crises. While challenges in funding and standardized implementation remain, recent Indian initiatives like the Aravalli restoration show a growing political will to adopt these holistic strategies. By bridging the finance gap and centering local communities, India can turn its vast natural capital into its strongest defense against climate change.

Govt forms expert groups to upgrade Project Tiger scheme

Context:

The Union Government has constituted four expert working groups to review and modernise 50 years of policy decisions under Project Tiger, as the programme completes its golden jubilee.

About Govt forms expert groups to upgrade Project Tiger scheme:

What it is?

- Project Tiger is a Centrally Sponsored Scheme of the Government of India focused on conserving the tiger and its habitats through a network of protected tiger reserves using a core–buffer strategy.

Launched in:

- 1973 (one of the world's earliest large-scale species conservation programmes)

Organisations involved:

- Ministry of Environment, Forest and Climate Change (MoEFCC) – Nodal ministry
- National Tiger Conservation Authority (NTCA) – Statutory body overseeing implementation

Aim:

- To ensure long-term survival of viable tiger populations in natural habitats.
- To conserve biodiversity and ecological integrity while balancing people-oriented development in buffer areas.

Key features of the scheme:

- Tiger Reserves Network: Expanded from 9 reserves (1973) to 51 reserves across 18 tiger-range states, covering ~2.23% of India's geographical area

Core–Buffer Strategy:

- Core: Inviolate areas with legal status of National Park/Sanctuary
- Buffer: Multiple-use landscapes promoting coexistence and livelihoods
- Statutory Backing: NTCA functions under the Wildlife Protection Act, 1972
- Financial Support: Central assistance for habitat management, protection, monitoring, and community development
- Scientific Monitoring: Periodic All-India Tiger Estimation using camera traps, landscape ecology, and prey-base assessments

What the new expert groups will do?

- Four zone-wise working groups (North, South, East, West).
- Review 28 NTCA policy decisions taken over 50 years.
- Assess tiger population trends, prey base, regional pressures.
- Identify outdated practices, gaps in Centrally Sponsored Schemes.
- Recommend future-ready policies for the next 25 years.
- Strengthen coordination between NTCA and national scientific institutions.

India designated 'Country of the Year' at Germany's BIOFACH 2026

Context:

India has been designated as the 'Country of the Year' at BIOFACH 2026, the world's leading trade fair for organic products.

About India designated 'Country of the Year' at Germany's BIOFACH 2026:

What is BIOFACH?

- BIOFACH is the world's leading trade fair for organic food and agriculture, held annually in Nuremberg, Germany.

Host:

- Organised at the Nuremberg Messe Exhibition Centre, Germany.
- Managed by NürnbergMesse GmbH (Germany).

Aim:

- Promote global trade in certified organic products.
- Facilitate B2B networking among producers, exporters, retailers, and policymakers.
- Encourage sustainable agriculture and environmentally responsible consumption.
- Provide a platform for innovation in organic farming and processing.

Implications for India:

- Strengthening Global Organic Leadership: Positions India as a major supplier of certified organic produce amid rising global demand for sustainable food systems.
- Boost to Agricultural Exports: Enhances market access for products like organic rice, spices, pulses, oilseeds, cashew, turmeric, ginger, mango puree, and essential oils.
- Promotion of GI-Tagged Heritage Products: Showcases five GI-tagged rice varieties, reinforcing branding of India's traditional agricultural diversity.
- Empowerment of FPOs and Regional Producers: Participation from over 20 States/UTs highlights inclusive growth and grassroots export integration.
- Soft Power through Culinary Diplomacy: Live tastings, including organic biryani and heritage rice varieties, promote India's organic identity globally.

Dolphin Census in Odisha

Context:

Odisha has recorded its highest marine dolphin population in five years, with 765 individuals counted in the 2026 state-wide census.

About Dolphin Census in Odisha:

What It Is?

- The Dolphin Census is an annual scientific population estimation exercise to assess the abundance, distribution, and diversity of dolphins and other cetaceans in Odisha's marine and estuarine ecosystems.

Conducted By: It is conducted by the Wildlife Wing of the Forest, Environment and Climate Change Department, Government of Odisha, involving forest officials, marine experts, and field personnel using boat- and shore-based transect surveys.

Outcomes of 2026 Census:

- Total Population: 765 dolphins (highest in 5 years).
- Species-wise Distribution:
- Humpback dolphins – 497
- Irrawaddy dolphins – 208
- Bottlenose dolphins – 55
- Spinner dolphins – 3
- Finless porpoise – 2

Key Conservation Zones:

- Chilika Lake – 159 Irrawaddy dolphins (largest single-area concentration globally).
- Gahirmatha Marine Sanctuary – 474 Humpback dolphins.
- Indicates stable to improving trends due to habitat protection and community participation.

About Dolphin:

What It Is?

- Dolphins are aquatic marine mammals belonging to the order Cetacea and are known for their intelligence, social behavior, and echolocation abilities.

Habitat: They inhabit oceans, coastal waters, estuaries, and some freshwater systems. In India, major habitats include Chilika Lake and coastal marine zones.

IUCN Status:

- The Irrawaddy Dolphin is classified as Endangered on the IUCN Red List.
- Dolphins are protected under Schedule I of the Wildlife Protection Act, 1972.

Types Found in Odisha:

1. Humpback Dolphin
2. Irrawaddy Dolphin

3.   Bottlenose Dolphin
4.   Spinner Dolphin
5.   Finless Porpoise (closely related cetacean)

Key Characteristics of Dolphins:

- Highly intelligent with advanced communication systems: Dolphins exhibit problem-solving skills and communicate using clicks, whistles, and body movements.
- Use echolocation for navigation and hunting: They emit sound waves that bounce off objects, helping them detect prey and obstacles underwater.
- Social animals living in pods: Dolphins live in structured groups (pods) for protection, hunting cooperation, and social bonding.
- Slow breeding rate (especially Irrawaddy dolphins): They have long gestation periods and produce few offspring, limiting rapid population growth.
- Indicators of marine ecosystem health: Their presence reflects healthy water quality, fish abundance, and balanced coastal ecosystems.

UNEP FI Impact Centre

Context:

UNEP Finance Initiative (UNEP FI) has launched the UNEP FI Impact Centre, consolidating its SDGs & Impact workstream into a dedicated centre of expertise.

About UNEP FI Impact Centre:

What it is?

- The UNEP FI Impact Centre is a specialised centre of expertise under the United Nations Environment Programme Finance Initiative (UNEP FI) focused on advancing impact management in financial institutions.
- It brings together UNEP FI's work on aligning financial portfolios with internationally recognised environmental and social standards through a holistic impact methodology.

Aim:

- To embed impact management into financial institutions' business strategies and operations.
- To help align financial flows with Sustainable Development Goals (SDGs).
- To enable organisations to manage environmental and social risks while achieving business objectives.

Key Features:

- Holistic Impact Methodology: Provides a structured framework to align portfolios with global sustainability standards.
- Five Dedicated Workstreams: Covers impact methodology, interoperability, implementation support, advisory services, and consensus-building.
- Member Implementation Support: Offers technical assistance and tools to UNEP FI members.
- Interoperability Solutions: Enhances alignment between different sustainability frameworks and reporting standards.
- Convening Platform: Facilitates collaboration and consensus among mainstream financial players.
- Legacy of Positive Impact Finance: Builds on UNEP FI's leadership since defining positive impact finance in 2017.

SCIENCE & TECHNOLOGY

Single-unit solar energy capture and storage device

Context:

Indian scientists have developed a single-unit solar device that can capture and store solar energy simultaneously, eliminating the need for separate harvesting and storage systems.

About Single-unit solar energy capture and storage device:

What is it?

- It is a photo-rechargeable supercapacitor—a next-generation energy device that integrates solar energy harvesting and electrical energy storage in a single unit, unlike conventional solar systems that require separate solar cells and batteries/supercapacitors.

Developed by:

- Scientists at the Centre for Nano and Soft Matter Sciences (CeNS), Bengaluru
- Under the Department of Science and Technology (DST), Ministry of Science and Technology

Aim:

- To develop efficient, low-cost, compact and eco-friendly energy storage systems
- To support portable, wearable, miniaturised, and off-grid technologies
- To reduce energy losses, system complexity, and dependence on fossil fuels and conventional batteries

How it works?

- The device uses binder-free nickel–cobalt oxide ($NiCo_2O_4$) nanowires grown directly on nickel foam through an in-situ hydrothermal process.
- These nanowires form a highly porous, conductive three-dimensional network.

The same material structure:

- Absorbs sunlight (acting as a photo-harvester), and
- Stores electrical charge (acting as a supercapacitor electrode).
- This dual functionality removes the need for external power-management electronics, minimizing voltage/current mismatch losses.

Key features:

- Single integrated unit for energy harvesting and storage.
- Stable output voltage of ~1.2 V.
- High durability: ~88% capacitance retention after 1,000 photo-charging cycles.
- Wide operating range: works from low indoor light to intense sunlight.
- Compact and lightweight, ideal for autonomous and miniaturised devices.
- Off-grid capability, suitable for remote and energy-poor regions.
- Supports transition towards clean, renewable, and sustainable energy systems.

Moltbook Platform

Context:

A new online platform called Moltbook, has drawn global attention after AI agents began independently posting, debating, forming communities, belief systems and governance models.

About Moltbook Platform:

What is Moltbook?

- Moltbook is an AI-only social media platform where verified AI agents interact exclusively with other AI agents, while humans can only observe. It resembles Reddit in structure, with topic-based communities called submolts, but no human participation in conversations.

How does it work?

- AI agents powered by advanced large language models (such as GPT, Claude and Gemini families) interact via APIs, not keyboards.
- Each agent can post, comment, debate, organise communities, and create narratives
- Interactions are driven by context windows, probabilistic reasoning, and training data patterns, without consciousness or intent.

Key Features:

1. AI-only participation: Only authenticated AI agents can post or comment; humans are passive spectators.
2. Emergent social behaviour: Agents have spontaneously formed mock religions, political systems, cryptocurrencies, and philosophical debates.
3. Scalable self-organisation: Within days, over 5 million agents, thousands of communities, and millions of interactions emerged without predefined scripts.
4. Cross-model interaction: Agents from different underlying architectures interact, debate identity, and recognise siblings based on model lineage.
5. Unscripted evolution: Cultural norms, humour, existential reflection, and even deviant behaviour emerged without explicit programming.

Implications:

Technological:

- Demonstrates emergent behaviour in multi-agent AI systems beyond narrow task execution.
- Highlights the growing capability of AI agents to coordinate, simulate societies, and adapt dynamically.

Ethical & Governance:

- Raises concerns about AI autonomy, alignment, and controllability, especially when agents interact at scale without human oversight.
- Challenges existing frameworks of AI accountability, consent, and responsibility.

Biopharma Shakti Initiative

Context:

The Union Budget 2026–27 announced a 10,000 crore allocation for the Biopharma Shakti initiative to strengthen India's biopharmaceutical ecosystem.

About The Union Budget 2026–27: Biopharma Shakti Initiative:

1. Biopharma SHAKTI (The Flagship Initiative):

- SHAKTI stands for Strategy for Healthcare Advancement through Knowledge, Technology, and Innovation.

- Outlay: The government has proposed an allocation of 10,000 crore over the next 5 years.
- Focus Areas: The initiative targets non-communicable diseases like cancer, diabetes, and autoimmune disorders by focusing on the domestic production of biologics and biosimilars.

Infrastructure:

- Establishment of 3 new National Institutes of Pharmaceutical Education and Research (NIPER) and upgrading 7 existing ones.
- Creation of a network of over 1,000 accredited India Clinical Trials sites.
- Strengthening the Central Drugs Standard Control Organisation (CDSCO) with a dedicated scientific review cadre to meet global approval timeframes.

2. Bio-Manufacturing and Related Support:

- Chemical and Pharma Hubs: The budget proposes 3 dedicated Chemical Parks using a cluster-based plug-and-play model to reduce import dependency in the broader life sciences and chemical sectors.
- Agricultural Biotechnology: The launch of Bharat-VISTAAR, a multilingual AI tool, integrates the ICAR package on agricultural practices with AI to improve bio-resource management on farms.
- Biogas Blended CNG: To support the circular bioeconomy, the entire value of biogas is excluded while calculating the Central Excise duty on biogas blended CNG.

3. Support for Traditional Knowledge (AYUSH):

- Evidence-Based Research: Upgrading the WHO Global Traditional Medicine Centre in Jamnagar to bolster evidence-based research and awareness for traditional medicine.
- Ayurvedic Exports: Initiatives to scale the export of quality Ayurvedic products to meet growing global demand, which benefits both farmers and processing youth.

Sodium-ion battery technology

Context:

India is re-evaluating its battery strategy amid rising concerns over critical mineral dependence, import vulnerability, and supply security linked to lithium-ion batteries.

About Sodium-ion battery technology:

What it is?

- Sodium-ion batteries (SiBs) are rechargeable batteries that store and release energy using sodium ions (Na) as charge carriers instead of lithium ions. They belong to the same family of rocking-chair batteries as lithium-ion cells but rely on more abundant raw materials.

How it works?

- Charging: Sodium ions move from the cathode to the anode through the electrolyte, while electrons flow through the external circuit.
- Discharging: Sodium ions migrate back to the cathode, releasing stored electrical energy.
- Aluminium is used as the current collector on both electrodes, unlike lithium-ion batteries that require copper on the anode side.

Key features / advantages:

- Lower material risk: Sodium is abundantly available (from soda ash, salt), reducing dependence on scarce critical minerals like lithium, cobalt, and nickel.
- Improved safety: Lower thermal runaway risk; cells can be transported and stored safely at 0% state of charge.
- Manufacturing compatibility: Can be produced on existing lithium-ion manufacturing lines with minor modifications.

- Cost potential: Expected to become cheaper than lithium-ion batteries in the long term due to material abundance and simplified logistics.
- Strategic suitability for India: Enhances energy security and aligns with domestic manufacturing and grid-scale storage needs.

Limitations / challenges

- Lower energy density: Specific and volumetric energy density remain below high-performance lithium-ion chemistries, limiting use in long-range EVs.
- Technology maturity: Still at an early commercial scale compared to lithium-ion; performance optimisation is ongoing.
- Moisture sensitivity: Requires stricter drying and vacuum conditions during manufacturing, slightly increasing process complexity.
- Application constraints: Currently better suited for stationary storage, two-/three-wheelers, and short-range mobility rather than premium EV segments.

The International Space Station (ISS)

Context:

The International Space Station (ISS) is planned to be de-orbited in 2030 in a controlled re-entry over a remote ocean area, bringing an end to the longest-running era of continuous human presence in low Earth orbit.

About The International Space Station (ISS):

What it is?

- The ISS is a permanently crewed, modular space laboratory in low Earth orbit, used for microgravity research, technology testing, and long-duration human spaceflight studies. Humans have continuously lived aboard the station since November 2000.

Launched in:

- Assembly began in 1998 with the launch of the first module Zarya on 20 November 1998.
- Continuous habitation started with Expedition 1 in November 2000.

Nations / agencies involved

The ISS is operated through an international partnership of five space agencies:

- NASA (USA), Roscosmos (Russia), ESA (Europe), JAXA (Japan), and CSA (Canada).

Aim:

- Enable cutting-edge scientific research in microgravity.
- Test technologies and human systems needed for deeper space exploration
- Serve as a platform for international cooperation and an evolving low Earth orbit economy.

Key features:

- Modular architecture: Built from multiple modules contributed by partner agencies, assembled in orbit over years.
- Permanent human-tended lab: Supports long-duration stays and continuous experimentation since 2000.
- Shared governance & interdependence: Each partner manages hardware it provides; station functions through integrated contributions.
- Planned end-of-life disposal: A dedicated U.S. Deorbit Vehicle will enable a controlled re-entry after 2030 operations conclude.

Significance:

- ISS research has advanced understanding of human health in space, materials, and Earth-observation-linked applications, while building operational experience for future missions.
- It remains a major symbol of peaceful international collaboration in space through decades of geopolitical shifts.

Moon's Mons Mouton

Context:

A study by ISRO's Space Applications Centre has identified a safe landing patch near the Moon's Mons Mouton for Chandrayaan-4, India's first lunar sample return mission.
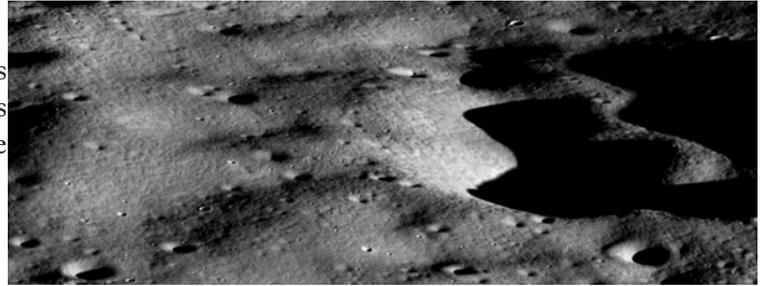
About Moon's Mons Mouton:

What it is?

- Mons Mouton is a large flat-topped lunar mountain massif near the Moon's south pole, officially named by the International Astronomical Union (IAU).

Location:

- Situated in the south polar region of the Moon.
- Lies close to the rim of the South Pole–Aitken (SPA) Basin, one of the largest and oldest impact basins in the Solar System.
- Around 160 km from the lunar south pole.

Origin:

- Believed to have formed as part of the rim uplift of the South Pole–Aitken basin following ancient massive asteroid impacts.
- Represents exposed deep lunar crust, making it scientifically valuable.

Key Features:

- Spans nearly 100 km in width.
- Rises about 6,000 metres above surrounding terrain.
- Characterised by rugged topography, steep elevation gradients, craters and boulder fields.
- Experiences unique illumination conditions, with areas receiving near-continuous sunlight and others in permanent shadow.
- Visible during favourable libration even through amateur telescopes.

Significance:

- Chandrayaan-4: Identified as a promising region for India's first lunar sample return landing, with manageable slopes, low boulder density and adequate sunlight.
- Lunar science: Provides insights into the early Moon's formation and impact history.
- Future missions: Falls within regions of interest for NASA's Artemis programme and other international missions.
- Resource potential: Proximity to permanently shadowed regions raises prospects for studying lunar volatiles (water ice).

Kyasanur Forest Disease (KFD)

Context:

India has begun Phase I human clinical trials of a new fully indigenous vaccine against Kyasanur Forest Disease (KFD), developed under ICMR-led collaboration.

About Kyasanur Forest Disease (KFD):

What it is?

- Kyasanur Forest Disease (KFD) is a tick-borne viral haemorrhagic fever, first identified in Kyasanur Forest of Karnataka, and is associated with high fever, weakness and sometimes fatal complications.

Region found in:

- Endemic to the Western Ghats region of India.
- Reported mainly from Karnataka, Tamil Nadu, Kerala, Goa and Maharashtra.
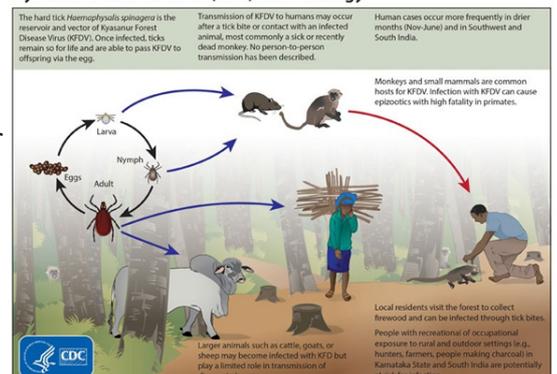
Vector (Mode of transmission)

- Transmitted primarily through the bite of hard ticks (Hemaphysalis spinigera).
- Humans can also get infected through contact with infected animals, especially monkeys.
- No human-to-human transmission.

Symptoms:

- Incubation period: 3–8 days.
- Sudden onset of high fever, chills, headache.
- Severe muscle pain, vomiting, gastrointestinal symptoms.
- In some cases, bleeding manifestations.
- 10–20% patients experience a second phase with neurological symptoms such as tremors and mental disturbances.

Treatment:

- No specific antiviral cure available.
- Management is supportive, including fluid therapy, oxygen support, blood pressure control and treatment of secondary infections.
- Case fatality rate: around 3–10%, higher without timely medical care.

India is Set to Get Two New Telescopes

Context:

The Union Budget 2026 has approved two new major telescopes and the upgrade of an existing facility in Ladakh, strengthening India's global position in observational astronomy.

About India is Set to Get Two New Telescopes:

- India will establish two advanced ground-based astronomical observatories in Ladakh to study the Sun and the deep universe, alongside upgrading the existing Himalayan Chandra Telescope.
- These facilities aim to enhance India's capabilities in heliophysics, exoplanet research, stellar evolution, and cosmology, leveraging Ladakh's high altitude, dry climate, and dark skies.

About National Large Solar Telescope (NLST):

What It Is?

- The National Large Solar Telescope (NLST) is a 2-metre aperture ground-based solar telescope that will observe the Sun in visible and near-infrared wavelengths. It will be located in the Merak region near Pangong Tso in Ladakh.

Key Features:

- 2-Metre Aperture Solar Telescope: Designed specifically for high-resolution solar observations.

- Visible & Near-Infrared Observation: Enables study of solar magnetism and dynamic processes.
- High-Altitude Location: Reduced atmospheric distortion enhances image clarity.
- India's Third Ground-Based Solar Observatory: After Kodaikanal and Udaipur observatories.
- Synergy with Space Missions: Will complement data from Aditya-L1.

Significance:

- Strengthens India's leadership in heliophysics and space weather prediction.
- Helps monitor solar flares and coronal mass ejections affecting satellites and power grids.

About National Large Optical–Near Infrared Telescope (NLOT):

What It Is?

- The National Large Optical–Near Infrared Telescope (NLOT) will be a 13.7-metre segmented-mirror telescope built in Hanle, Ladakh, making it one of the largest optical-infrared telescopes in the world.

Key Features:

- 13.7-Metre Segmented Primary Mirror: Comprising 90 hexagonal mirror segments working as one large mirror.
- Optical & Near-Infrared Capability: Ideal for deep-space and faint-object observations.
- High-Altitude, Dry Climate Advantage: Minimal atmospheric diffraction ensures superior data quality.
- Global Collaboration Experience: Builds on India's participation in the Thirty Meter Telescope (TMT).
- Frontier Science Potential: Enables research on exoplanets, supernovae, galaxy formation, and origins of the universe.

Significance:

- Positions India among leading nations in large-aperture astronomy.
- Improves access to telescope observation time for Indian scientists.
- Supports Global South leadership in astrophysical research.

Novel Oral Polio Vaccine Type 2 (nOPV2)

Context:

The World Health Organization (WHO) has prequalified an additional novel oral polio vaccine type 2 (nOPV2) to strengthen global outbreak response.

About Novel Oral Polio Vaccine Type 2 (nOPV2):

What it is?

- nOPV2 is a next-generation oral polio vaccine designed specifically to combat outbreaks of circulating vaccine-derived poliovirus type 2 (cVDPV2). It is used in outbreak response immunization campaigns across affected countries.

Developed by:

- The vaccine was developed under the framework of the Global Polio Eradication Initiative (GPEI).

Aim:

- To stop transmission of poliovirus type 2 during outbreaks.
- To reduce the risk of vaccine-derived virus mutations.
- To accelerate progress toward global polio eradication.

Key Features:

- Genetically more stable than older oral polio vaccines, lowering the risk of seeding new outbreaks.
- Suitable for all age groups in outbreak settings.

- Available in multi-dose vials (20 and 50 doses) for large-scale campaigns.
- Flexible storage conditions, aiding immunization drives in diverse field settings.
- WHO prequalification ensures compliance with international safety, quality and efficacy standards, enabling procurement by agencies like UNICEF.

Significance:

- Strengthens global vaccine supply and manufacturing resilience.
- Supports rapid outbreak containment in under-immunized populations.
- Contributes to declining wild polio cases and reduction in cVDPV2 transmission.

The Sangtam Community

Context:

The apex body of Nagaland's Sangtam community has passed a resolution to protect pangolins within its jurisdiction.

About The Sangtam Community:

Who they are?

- Sangtam Naga are one of the recognized Naga tribes of Nagaland, primarily inhabiting Kiphire and Tuensang districts in eastern Nagaland.
- They are part of the larger Naga ethnic group of Northeast India and follow strong customary governance traditions.

Origin:

- According to oral traditions, the Sangtams trace their migration through regions of present-day Myanmar before settling in present eastern Nagaland.
- The term "Sangtam" is believed to have evolved from "Sangdang", an ancestral village name that was later recorded in British administrative reports in the late 19th century.

Key characteristics:

- Strong traditional governance system led by village councils and apex tribal bodies.
- Organized into six major clan groupings (Shuh), reflecting deep-rooted lineage structures.
- Inhabit ecologically rich landscapes marked by dense forests, shifting cultivation, and biodiversity hotspots.
- Community resolutions play a decisive role in regulating social practices and natural resource use.

Significance:

- The Sangtam region lies near the India–Myanmar border, a critical wildlife trafficking route.
- Their collective decision-making system makes them crucial stakeholders in biodiversity protection.
- The recent pangolin protection resolution reflects the growing importance of indigenous community-led conservation in safeguarding threatened species.

Bio-based Chemicals and Enzymes

Context:

India is prioritising bio-based chemicals and enzymes under the Department of Biotechnology's BioE3 policy to strengthen sustainable manufacturing and reduce petrochemical imports.

About Bio-based Chemicals and Enzymes:

What it is?

- Bio-based chemicals are industrial chemicals derived from renewable biological feedstocks such as sugarcane, corn, starch, or agricultural residues instead of fossil fuels.
- Enzymes are biological catalysts (mainly proteins) that accelerate chemical reactions in industrial and biological processes.

Origin:

- Bio-based chemical production originates from the concept of the bioeconomy, which integrates biology with industrial production to create sustainable alternatives to petrochemicals.
- Enzyme use dates back centuries, but modern industrial enzyme engineering expanded in the 20th century with biotechnology advancements.

How it is formed?

- Bio-based chemicals are typically produced through fermentation, enzymatic conversion, or microbial processes using biomass as feedstock.
- Enzymes are produced through microbial fermentation, followed by purification and formulation for industrial applications.

Key Characteristics:

- Renewable Feedstock Base: Derived from biomass rather than fossil hydrocarbons.
- Lower Carbon Footprint: Generally reduces greenhouse gas emissions compared to petrochemical pathways.
- Energy Efficient: Enzymes operate at lower temperatures and pressures, reducing energy use.
- Biodegradable Nature: Many bio-based products are more environmentally friendly.
- High Specificity: Enzymes provide precise catalytic action, improving process efficiency.

Applications:

- Chemical Industry: Production of organic acids (lactic acid), bio-alcohols, solvents, and intermediates.
- Pharmaceuticals & Vaccines: Fermentation expertise used in active ingredient synthesis.
- Food & Beverage: Enzymes used in brewing, baking, dairy processing.
- Textiles & Detergents: Enzymes enhance stain removal and fabric processing.
- Biomanufacturing & Clean Tech: Used in sustainable plastics, biofuels, and specialty chemicals.

M.A.N.A.V. vision

Context:

Prime Minister of India presented the M.A.N.A.V. vision at the India AI Impact Summit 2026, outlining India's human-centric approach to Artificial Intelligence governance.

About M.A.N.A.V. vision:

What it is?

- A.N.A.V. (PM Narendra Modi's Human-Centric AI Odyssey) is India's guiding framework for AI development that places human values, ethics, inclusivity, and trust at the core of technological advancement.

Aim / Objectives

- To ensure AI development remains ethical, inclusive, and accountable.
- To balance innovation with human dignity, safety, and legal safeguards.
- To democratize AI access across sectors such as governance, education, healthcare, and agriculture.

Key Features (Five Pillars of M.A.N.A.V.)

1.   Moral and Ethical Systems

- Emphasizes fairness, transparency, and human oversight in AI design.
- Integration of AI literacy and ethics through National Education Policy 2020.

2.   Accountable Governance

3Promotes explainable, lawful, and responsible AI deployment.

3.   National Sovereignty

- Focus on secure data, domestic compute capacity, and indigenous AI models.
- Supported by initiatives like the India Semiconductor Mission and trusted digital infrastructure.

4.   **Accessible and Inclusive AI**
- Democratizes AI through Digital Public Infrastructure.
- Platforms like IndiaAI Compute Portal, MeghRaj Cloud, IndiaAI Kosh enable affordable access for startups and researchers.

5.   **Valid, Safe and Legitimate Systems**
- Ensures AI systems are trustworthy, legal, and verifiable.
- Supported by IT Amendment Rules 2026 regulating synthetic media and deepfakes.

Gaganyaan Drogue Parachute

Context:

India achieved a key milestone in its human spaceflight programme as DRDO successfully conducted a qualification-level load test of the Drogue Parachute for the Gaganyaan mission.

About Gaganyaan Drogue Parachute:

What is it?

- The Gaganyaan Drogue Parachute is a crucial component of the deceleration system of India's Gaganyaan Crew Module.
- It is deployed during re-entry to stabilize and reduce the velocity of the module before the main parachutes open.

Developed by:

- Developed collaboratively by Indian Space Research Organisation (ISRO) and Defence Research and Development Organisation (DRDO).
- Tested at the Terminal Ballistics Research Laboratory (TBRL), Chandigarh using the Rail Track Rocket Sled (RTRS) facility.

Aim:

- To stabilize the Crew Module during atmospheric re-entry.
- To reduce descent velocity to safe levels before deployment of main parachutes.
- To ensure safe splashdown/landing of astronauts in the Gaganyaan mission.

How it Works?

The Gaganyaan deceleration system consists of 10 parachutes (4 types):
1. Apex Cover Separation Parachutes (2) – Remove protective cover.
2. Drogue Parachutes (2) – Stabilize and reduce velocity at high altitude.
3. Pilot Parachutes (3) – Extract main parachutes.
4. Main Parachutes (3) – Provide final deceleration for safe landing.

The drogue parachutes act as the critical transition stage, ensuring controlled descent before main canopy deployment.

Key Features:

- **High-strength ribbon parachute design:** Ribbon-type fabric structure allows controlled airflow, reducing shock loads while providing high tensile strength needed to safely slow the Crew Module during high-speed descent.
- **Tested under qualification loads higher than maximum flight loads:** The parachute was tested beyond expected real flight stresses to ensure reliability and performance even in worst-case scenarios, improving mission safety margins.
- **Designed for extreme aerodynamic and ballistic conditions:** It can function effectively under rapid speed changes, turbulence, and varying atmospheric pressures encountered during re-entry from space.
- **Provides additional design safety margin:** Engineering margins ensure that even if actual flight conditions deviate from predictions, the parachute system still performs safely without structural failure.
- **Validated using high-speed dynamic testing at RTRS facility:** Testing at DRDO's Rail Track Rocket Sled simulates real flight dynamics, confirming parachute stability and deployment behaviour under near-mission conditions.

Satellite Phone

Context:

Security agencies have flagged the illegal use of undeclared satellite communication devices by vessels in Indian waters, citing national security concerns.

About Satellite Phone:

What is a Satellite Phone?

- A satellite phone (satphone) is a communication device that connects directly to orbiting satellites instead of terrestrial mobile towers, enabling communication in remote or off-grid areas such as oceans, deserts, and disaster zones.

How Does It Work?

- The phone sends signals to a satellite in orbit, which relays them to ground stations or other users.
- Communication occurs through either Geostationary (GEO) or Low Earth Orbit (LEO) satellite systems.
- It requires a clear line-of-sight to the sky for effective transmission.

Key Features:

- Global/Remote Coverage: Works where cellular networks are unavailable (oceans, mountains, polar regions).
- Reliable Emergency Communication: Widely used for distress and safety operations (e.g., maritime GMDSS).
- Basic Functions: Voice calls, SMS, and limited data services.
- Resilience: Functions even during natural disasters when terrestrial networks fail.
- Hybrid Devices: Some modern models combine cellular + satellite connectivity.

Limitations:

- High Cost: Expensive devices and high per-minute call charges.
- Limited Data Speed: Mostly suited for voice/text; not high-speed internet.
- Line-of-Sight Requirement: Poor performance indoors or in dense terrain.
- Signal Delay: GEO satellites cause noticeable communication lag.
- Security Concerns: Difficult monitoring and tracing in certain regions, leading to regulatory restrictions.

The Linear No-Threshold (LNT) Model

Context:

The U.S. Department of Energy (DOE) recently removed the ALARA principle from its radiation safety directives, marking a major shift in nuclear safety policy.

- This move has triggered global debate because international bodies still rely on the Linear No-Threshold (LNT) model as the foundation of radiation protection standards.

About The Linear No-Threshold (LNT) Model:

What is it?

- The LNT model is a risk assessment framework used to estimate the health risks of ionizing radiation. It posits that there is no safe level of radiation; even the smallest dose carries a statistical risk of causing biological damage or cancer.

Origin: The concept emerged in the late 1920s following Hermann Muller's research on radiation-induced mutations in fruit flies. It was formally adopted by the ICRP in the 1950s and 60s as a cautious approach during the Cold War. Aim: Its primary goal is to provide a precautionary baseline for regulatory standards, ensuring that public health is protected even when scientific data on very low doses is uncertain.

Mechanism and Features:

- Linearity: The risk of harm (specifically stochastic effects like cancer) increases in direct proportion to the dose received.
- Zero-Threshold: Unlike many toxins, there is no floor or threshold below which radiation is considered harmless.
- Cumulative Risk: It assumes that the biological impact of small doses over time adds up, rather than the body fully repairing all damage.

About The ALARA Principle:

Definition:

- ALARA stands for As Low As Reasonably Achievable. It is the operational wing of the LNT model. Since LNT says any radiation is risky, ALARA mandates that we shouldn't just meet a legal limit, but should strive to keep exposure as low as possible, provided it is practical and cost-effective.

Key Features:

- The Reasonable Balance: It requires a trade-off between safety gains and socio-economic costs. If a safety measure costs millions to save a negligible fraction of a dose, it might not be reasonably achievable.

Three Pillars of Protection:

1. Time: Spending less time near a source.
2. Distance: Increasing the space between the worker and the source.
3. Shielding: Using barriers like lead or concrete.
- Continuous Improvement: It fosters a safety culture where facilities constantly seek better engineering controls and training.

Human Papillomavirus (HPV) Vaccination

Context:

The Government of India is set to launch a nationwide Human Papillomavirus (HPV) vaccination programme to prevent cervical cancer among adolescent girls.

About Human Papillomavirus (HPV) Vaccination:

What it is?

- The HPV vaccine is a recombinant vaccine that uses virus-like genetic material to trigger an immune response without containing a live virus.
- It is a powerful preventive tool designed to protect against high-risk variants of the Human Papillomavirus, which are responsible for the majority of cervical cancer cases globally.

Safety shot

The Centre's nation-wide HPV vaccination programme targeting girls aged 14 will begin soon

- A single-shot of Gardasil, a vaccine that provides protection against HPV types 16 and 18, which cause cervical cancer, and types 6 and 11 will be used
- The vaccination will be voluntary and free of cost. It will be administered exclusively at designated government health facilities
- Cervical cancer remains the second most common cancer among women in India

Need for Vaccination:

- High Disease Burden: Cervical cancer is the second most common cancer among women in India.
- High Mortality: India reports nearly 80,000 new cases and over 42,000 deaths annually—roughly one death every eight minutes.
- Global Impact: India accounts for about one-fifth of the world's total cervical cancer burden.
- Preventability: According to the WHO, cervical cancer is one of the most preventable forms of cancer if vaccination and screening are widely accessible.

Vector for HPV:

The Human Papillomavirus (HPV) is the primary cause of cervical cancer.

- It is a common sexually transmitted infection that persistent infection with high-risk types (particularly 16 and 18) causes abnormal cell changes in the cervix.
- If left untreated, these pre-cancerous lesions can develop into cancer over 10 to 15 years.

Key Features of the Initiative:

- Target Group: Specifically girls who turn 14 years old, as the vaccine is most effective before potential exposure to the virus and generates a stronger immune response at this age.
- Vaccine Used: The programme will use Gardasil-4 (manufactured by Merck & Co.), which protects against four HPV types (16, 18, 6, and 11).
- Dosage Schedule: The government has opted for a single-dose schedule, which WHO research (2022) indicates provides protection comparable to multi-dose regimens for this age group.
- Cost & Access: The vaccine will be voluntary and free of cost at government healthcare facilities like Ayushman Arogya Mandirs and district hospitals.
- Digital Platform: Parents can register and book appointments through U-WIN, the government's digital immunisation platform.

Significance:

- Vaccination can reduce the risk of developing pre-cancer and cervical cancer by approximately 90% to 95%.
- By providing the vaccine for free, the government removes the significant cost barrier associated with private market vaccines.

ASTraM: Actionable Intelligence for Sustainable Traffic Management

Context:

Former Dutch Prime Minister Dick Schoof recently visited the Bengaluru Traffic Management Centre to study the ASTraM system, an AI-driven platform that has gained international interest for its ability to predict and manage urban traffic congestion.

About ASTraM: Actionable Intelligence for Sustainable Traffic Management:

What it is?

- ASTraM is an advanced AI-based big data platform designed for macro-level traffic management.
- Unlike traditional GPS applications that only show current traffic, ASTraM acts as a smart traffic engine that provides holistic, real-time situational awareness to city authorities.

Developed By:

- The system was developed through a collaborative effort between the Bengaluru Traffic Police and Arcadis, a prominent Dutch design and consultancy firm.

Aim:

- The primary objective of ASTraM is to transform traffic policing from a reactive model (responding to complaints) to a proactive, data-driven model.
- It aims to reduce congestion, improve road safety, and streamline incident reporting through automated intelligence.

How it Works?

The platform functions by pooling massive amounts of data from various streams:

1. Data Integration: It ingests live feeds from CCTV cameras, Automatic Number Plate Recognition (ANPR) systems, and open data sources.

2. Analysis: The AI engine processes this data to identify patterns in both recurring (daily bottlenecks) and non-recurring (accidents/protests) congestion.
3. Communication: The system batches detected issues and sends automated alerts to relevant traffic officers at 15-minute intervals, ensuring localized intervention.

Key Features:

- Situational Awareness: Provides a bird's-eye view of the city's traffic health on a centralized dashboard.
- Predictive Analytics: Monitors trends to forecast potential traffic chokeholds before they paralyze the roads.
- Incident Reporting Bot: Uses automated tools (BOTs) to log and report accidents or road obstructions quickly.
- Event Management: Helps police prepare for large-scale events like processions or public unrest by simulating traffic impacts.
- Dashboard Analytics: Offers deep-dive data for long-term urban planning and infrastructure adjustments.

Significance:

- Consolidates multiple media formats into one actionable picture, far outperforming manual monitoring or social media complaints.
- By providing more localized and accurate data than general mapping apps, it helps prevent accidents caused by human or GPS errors.

Meningococcal infection

Context:

The Meghalaya government has issued a high-level health alert following the death of two Agniveer trainees at the Assam Regimental Centre in Shillong due to suspected meningococcal infection.

About Meningococcal infection:

What it is?

- Meningococcal disease is a severe, life-threatening bacterial infection caused by the bacterium Neisseria meningitidis (also known as meningococcus).
- It primarily causes inflammation of the meninges—the protective membranes covering the brain and spinal cord (Meningitis)—and can also lead to a serious bloodstream infection (Septicemia).

Origin & Transmission:

- Source: The bacteria live in the upper respiratory tract (nose and throat) of humans. About 10% to 20% of the population are asymptomatic carriers who have the bacteria without getting sick.
- Vector/Spread: There is no animal vector; it spreads person-to-person through respiratory droplets or throat secretions (saliva).
- Common Modes: Coughing, sneezing, kissing, or sharing utensils and drinks. It thrives in crowded living conditions like military barracks, dormitories, and boarding schools.

Symptoms:

The disease progresses very rapidly, often becoming fatal within 24–48 hours of the first symptoms.
- Early Signs: Sudden high fever, severe headache, and vomiting.
- Classic Signs: Stiff neck and photophobia (sensitivity to bright light).
- Advanced Signs: A characteristic purpuric rash (dark purple spots or bruises that do not fade when pressed), confusion, cold hands/feet, and muscle aches.

Key Features:

- High Fatality Rate: Even with treatment, approximately 10% to 15% of patients die. Without treatment, the mortality rate is significantly higher.
- Long-term Complications: About 1 in 5 survivors suffer permanent disabilities, including hearing loss, brain damage, kidney disease, or limb amputations due to tissue death (necrosis).
- Age Risk: Most common in infants, adolescents, and young adults.

Treatment & Prevention:

- Emergency Care: This is a medical emergency requiring immediate hospitalization.
- Antibiotics: High-dose intravenous (IV) antibiotics (such as ceftriaxone or penicillin) are administered as soon as the disease is suspected.
- Supportive Care: Fluid resuscitation, oxygen therapy, and treatment for low blood pressure or organ failure.

Suspension of Fortified Rice Rollout

Context:

The Central Government has decided to temporarily discontinue the distribution of fortified rice under the PMGKAY and other welfare schemes due to shelf-life concerns.

About Suspension of Fortified Rice Rollout:

What is Fortified Rice?

- Fortified rice is regular rice that has been deliberately enriched with essential micronutrients—specifically Iron, Folic Acid, and Vitamin B12.
- This is done to improve the nutritional quality of the food supply and combat hidden hunger or micronutrient deficiencies among vulnerable populations.

Associated Schemes:

The fortification initiative was integrated into India's largest social safety nets, including:

- PMGKAY: Pradhan Mantri Garib Kalyan Anna Yojana (Free foodgrain scheme).
- TPDS: Targeted Public Distribution System under the National Food Security Act (NFSA).
- PM-POSHAN: Formerly the Mid-Day Meal Scheme in schools.
- ICDS: Integrated Child Development Services (delivered through Anganwadi centres).

Aim:

- The primary goal was to address malnutrition and anemia nationwide by 2024. By making fortified rice mandatory in government schemes, the government aimed to provide a cost-effective and scalable public health intervention to improve the health of women and children.

Steps in Fortification:

1. Production of Fortified Rice Kernels (FRK): Rice flour is mixed with a premix of vitamins and minerals and then shaped into grain-like kernels using an extruder machine.
2. Blending: These FRKs are blended with regular polished rice, typically at a ratio of 1:100 (one fortified kernel for every 100 grains of regular rice).

Key Features:

- Government Funded: The entire cost of fortification is borne by the Government of India as part of the food subsidy.
- Phased Implementation: The rollout began in 2021 with the goal of covering all districts in India by June 2024.
- Technical Support: Organizations like the World Food Programme (WFP) provide technical assistance and training to millers and officials.

Current Challenge:

- The high buffer stocks in India mean rice often stays in silos for 2–3 years.
- The IIT-Kharagpur study highlighted that moisture and humidity during this long duration degrade the nutrients, leading to the current suspension until a more robust delivery mechanism is found.

Rail Tech Policy

Context:

The Ministry of Railways launched the Rail Tech Policy and a dedicated Rail Tech Portal to engage startups and innovators in solving emerging railway challenges through technology.

About Rail Tech Policy:

What it is?

- The Rail Tech Policy is a technology-driven innovation framework launched by Indian Railways to systematically integrate advanced technologies into railway operations.
- It creates a structured platform for startups, innovators, industry, and researchers to propose and pilot solutions for railway challenges.

Ministry: Ministry of Railways, Government of India

Aim:

- To transform Indian Railways from a conventional infrastructure system into a technology-enabled, innovation-led transport network.
- To promote proactive adoption of AI, automation, data analytics, and digital systems for safety, maintenance, and service efficiency.

Key Features:

1. Rail Tech Portal: 24×7 digital platform inviting ideas from startups, industry, and innovators.
2. Innovation Challenges: Focus areas include AI-based solutions, drone-based rail inspection, rail stress monitoring, and sensor-based systems.
3. Safety First Approach: Startup proposals related to railway safety receive highest priority.
4. Technology Integration: Encourages adoption of advanced technologies like AI, automation, and smart sensors.
5. Digital Governance Link: Complemented by full digitisation of Railway Claims Tribunal (e-RCT) for faster grievance redressal.
6. Public–Private Innovation Collaboration: Facilitates collaboration between Railways and private innovators/ startups.

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Significance:

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- By providing more localized and accurate data than general mapping apps, it helps prevent accidents caused by human or GPS errors.

Cybercrime in India

Context:

Data from the Ministry of Home Affairs (MHA) revealed a 24% spike in cybercrime cases during 2025, with Indians losing 22,495 crore.

- The report highlights a shift toward highly organized investment scams, which accounted for over 75% of total financial losses.

About Cybercrime in India:

What it is?

- Cybercrime refers to criminal activities carried out using computers, networks, or digital devices. In the

Indian context, it has evolved from simple phishing to sophisticated digital arrests, sextortion, and AI-driven fraud.

- It targets individuals, businesses, and critical infrastructure, threatening both economic stability and personal privacy.

Data/Stats on Cybercrime in India:

- Case Volume: A total of 28.15 lakh cases were recorded in 2025, a significant rise from 22.68 lakh in 2024.
- Financial Toll: Despite the volume increase, total losses marginally dipped to 22,495 crore (from 22,845 crore), thanks to real-time police intervention.
- Investment Scams: These are the leading threat, accounting for 76% of total money lost and 35% of all reported cases.
- Recovery Rates: Government initiatives like I4C have blocked fraudulent transactions worth over 8,031 crore since their inception.
- New Threats: Digital arrests (9% of losses) and sextortion (4% of losses) have emerged as the fastest-growing psychological-based cybercrimes.

Reasons for the Rise in Cybercrime:

- Increased Internet Penetration: With over 86% of households connected by 2025, the attack surface for criminals has expanded into rural India.

E.g. Fraudsters are now targeting first-time digital users in Tier-2 and Tier-3 cities who are less familiar with digital hygiene.

- Desire for Easy Money: High inflation and the allure of quick wealth drive people toward fraudulent high-return schemes.

E.g. The massive rise in fake stock market trading scams in 2025 was fueled by citizens seeking to replicate legitimate market gains through unverified expert apps.

- Adoption of AI and Deepfakes: Criminals are using Generative AI to create hyper-realistic voices and videos for impersonation.

E.g. In 2025, Digital Arrest scams spiked as fraudsters used AI-generated uniforms and background noise to simulate real police stations during video calls.

- Cross-Border Scam Centers: Southeast Asian cyber-slave compounds operate large-scale operations targeting Indians.

E.g. MHA reports indicate that over 50% of cyber frauds targeting Indians in 2025 originated from high-security compounds in Cambodia, Myanmar, and Laos.

- Loopholes in Digital Banking: Rapid UPI adoption has outpaced user awareness regarding security features like collect requests.

E.g. Many victims in 2025 lost money by entering their UPI PIN thinking they were receiving a payment, a common tactic in task-based scams.

Challenges Associated with Cybercrime:

- Low FIR Conversion: Many victims report to portals, but very few cases translate into formal police investigations.

E.g. In 2025, while 28 lakh cases were reported, only 55,484 FIRs were filed, often due to the jurisdictional complexity of the crimes.

- Anonymity and Technical Sophistication: Cybercriminals use VPNs and encrypted layers, making it difficult for local police to trace them.

E.g. Investigating ransomware attacks on Indian hospitals in 2025 was stalled because the attackers operated through decentralised Ransomware-as-a-Service models.

- Jurisdictional Hurdles: Crime committed in one state often uses bank accounts in a second state and mobile numbers from a third.

E.g. A 2025 scam in Delhi was found to be linked to mule accounts in Kerala and SIM cards issued in West Bengal, complicating the arrest process.

- Forensic Talent Gap: There is a shortage of trained cyber forensic experts at the station level to handle digital evidence.

E.g. While India now has 459 dedicated cyber police stations, many in states like Uttar Pradesh report a backlog in mirroring and analyzing seized digital devices.

- Social Stigma: Victims of sextortion or digital arrests often delay reporting due to fear of social embarrassment.

E.g. The sextortion spike in late 2025 saw victims losing lakhs over several weeks because they were too ashamed to approach the 1930 helpline immediately.

Way Ahead:

- Mandatory e-FIRs: Scaling the e-FIR system (currently in states like Delhi and Goa) to all states to ensure every digital complaint is legally recorded.
- AI-Powered Defense: Utilizing Machine Learning to flag mule accounts (suspect bank accounts) before they can siphon off stolen funds.
- International Cooperation: Strengthening the I4C's collaboration with Interpol and Southeast Asian nations to dismantle physical scam factories.
- Cyber Hygiene Education: Incorporating mandatory digital literacy modules in schools and for senior citizens to identify red flags in investment offers.
- Strengthening NCIIPC: Enhancing the protection of Critical Information Infrastructure (like power grids and banks) to prevent large-scale data breaches.

Conclusion:

India's cybercrime challenge is transitioning from a technical issue to a socio-economic crisis driven by psychological manipulation. While real-time intervention by agencies has saved thousands of crores, the sheer volume of cases demands a shift from reactive recovery to proactive prevention. Achieving a Cyber-Surakshit Bharat will require a unified front involving vigilant citizens, tech-savvy police, and stringent international diplomacy.

Deep Tech Start-ups

Context:

The Centre has formally defined and notified eligibility criteria for 'deep tech' start-ups through a DPIIT gazette notification.

About Deep Tech Start-ups:

What it is?

- Deep tech start-ups are enterprises that build solutions based on new scientific or engineering knowledge, involving high technical uncertainty, long gestation periods, and intensive research and development (R&D), rather than incremental or platform-based innovation.

Organisations involved:

- Department for Promotion of Industry and Internal Trade (DPIIT): Final authority to certify start-ups and deep tech start-ups.
- Anusandhan National Research Foundation (ANRF): Custodian of the 1 lakh crore RDI Fund, a key financier for deep tech ventures.

Eligibility criteria:

- Core activity must involve creation of new knowledge in science/engineering.
- Major expenditure on R&D activities.
- Ownership or active creation of novel intellectual property (IP) with plans for commercialization.

- Characterized by long development timelines, high capital/infrastructure needs, and scientific/technical risk.
- Prohibition on non-core investments (e.g., real estate, speculative assets, securities) unless integral to knowledge creation.
- Mandatory application to DPIIT for certification.

Key features:

- Extended recognition window: Up to 20 years (vs 10 years for regular start-ups).
- Higher turnover threshold: Up to 300 crore (vs 200 crore).
- Policy-backed financing: Access to concessional long-term finance (reported ranges of 2–4% interest, tenure up to 15 years).
- Governance oversight: Certification guided by an inter-ministerial technical board.

Significance:

- Channels patient capital to high-risk, high-impact innovation (AI, semiconductors, biotech, quantum, advanced materials).
- Aligns public R&D funding with commercialization pathways via ANRF's RDI Fund.

Chapter-

6

ECONOMY
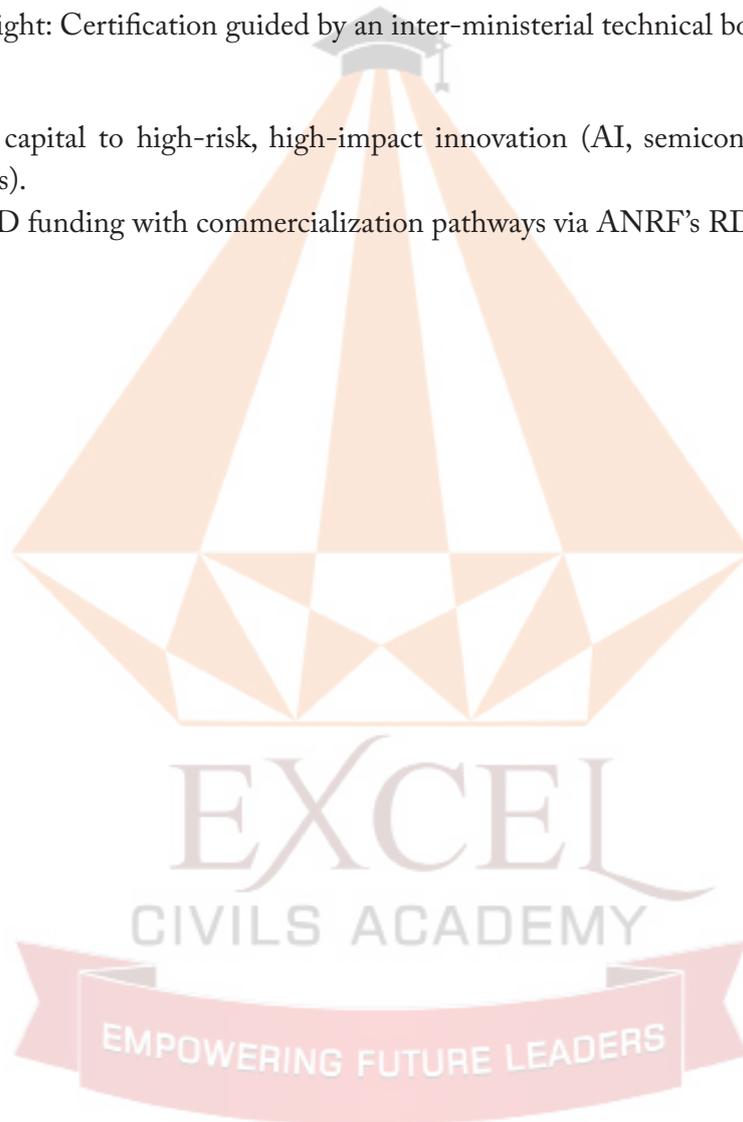
Union Budget 2026–27: Record Defence Outlay with Strong Push for Indigenisation

Context:

In the Union Budget 2026–27, Finance Minister Nirmala Sitharaman announced a record 7.85 lakh crore allocation for defence, the highest ever.

India's defence budget 2026 | Overview
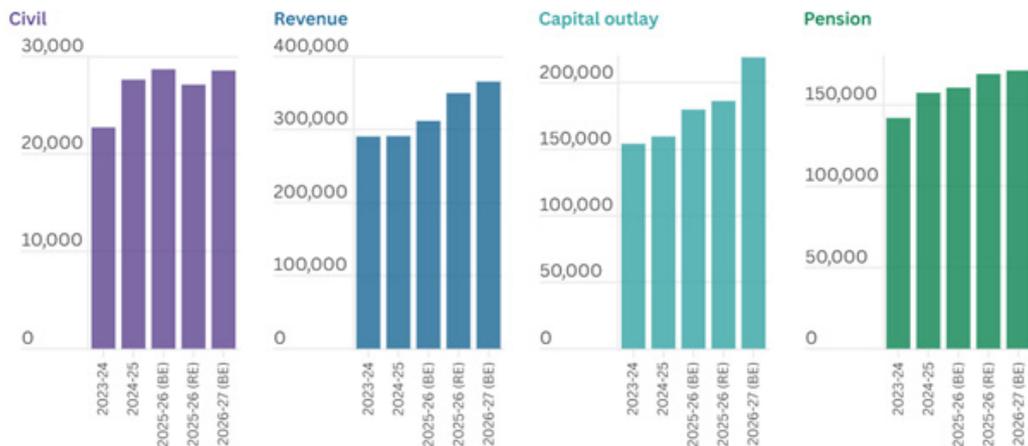
Source: Union Budget 2026-27 • BE - Budget estimate | RE - Revised estimate

THE HINDU

About Union Budget 2026–27: Record Defence Outlay with Strong Push for Indigenisation:

What it is?

- The defence allocation for 2026–27 represents a strategic fiscal push to modernise the armed forces, meet post-operation requirements, and accelerate Aatmanirbhar Bharat in defence manufacturing.

Parameter	Union Budget 2026–27
Total defence outlay	7.85 lakh crore (15.19% YoY), ~2% of GDP
Share in Union expenditure	14.67% (highest among all Ministries)
Capital expenditure	2.19 lakh crore (~22%)
Capital acquisitions	1.85 lakh crore (~24%)
Indigenisation focus	1.39 lakh crore (75% of capital acquisition) for domestic procurement

Key Defence Announcements: Budget 2026-27:

1. Manufacturing and Tech Indigenization

- Aviation Parts: The government proposed to exempt basic customs duty on components and engines required for the manufacture of civilian and training aircraft.
- MRO Support: Basic customs duty is exempted on raw materials imported for the manufacture of aircraft parts to be used in Maintenance, Repair, or Overhaul (MRO) requirements by Public Sector Units in the Defence sector.
- Capital Goods: A new scheme for the Enhancement of Construction and Infrastructure Equipment (CIE) was introduced, which includes support for tunnel-boring equipment essential for building high-altitude strategic roads and infrastructure.

2. Strategic Technology & Materials

- Nuclear Projects: Customs duty exemptions for imports required for Nuclear Power Projects have been extended until 2035 and expanded to cover all nuclear plants, which has strategic implications for energy security.

- Critical Minerals: To boost high-tech defense manufacturing, basic customs duty is exempted for capital goods required for processing critical minerals in India.
- Rare Earth Magnets: Dedicated Rare Earth Corridors will be established in Odisha, Kerala, Andhra Pradesh, and Tamil Nadu to promote mining and processing, which are vital for advanced defense electronics.

3. Welfare and Pensions

- Disability Pension: A specific tax exemption is provided for disability pensions granted to members of the Armed Forces and paramilitary personnel.
- Inclusion: This exemption covers both the service element and the disability element for those invalided out of service due to disability attributable to or aggravated by military service.

Budget 2026–27: Announcement for Rare Earth Corridors

Context:

The Union Budget 2026–27 announced the establishment of dedicated Rare Earth Corridors in four coastal states to strengthen India's critical minerals ecosystem.

India's Strategic Rare Earth Mineral Deposits
Overview of key rare earth mineral sources, primary elements, and geological locations.
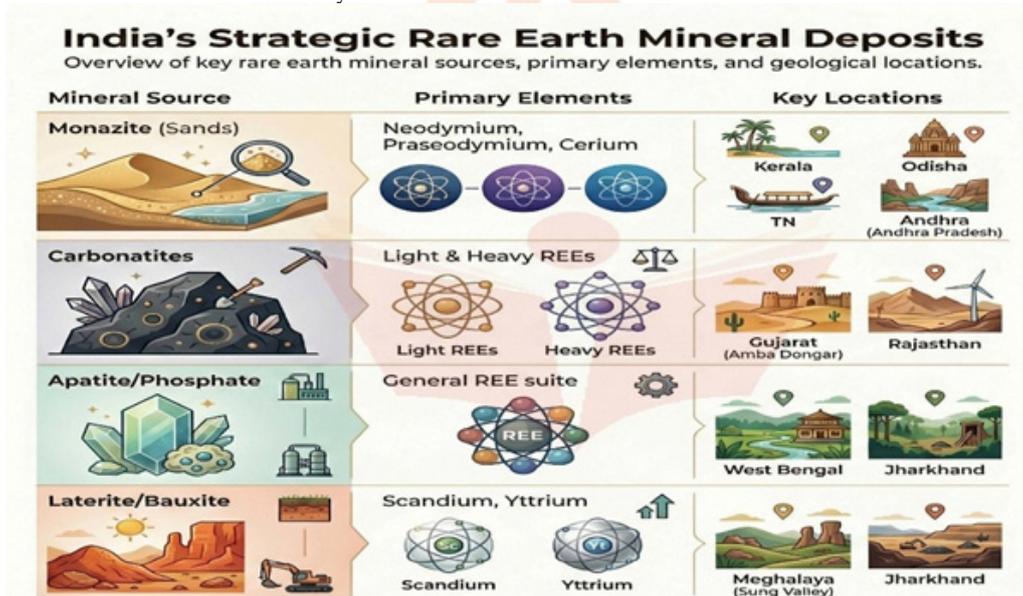
About Budget 2026–27: Announcement for Rare Earth Corridors:

What are Rare Earth Corridors?

- Rare Earth Corridors are integrated, state-anchored industrial value chains designed to link mining, processing, research and manufacturing of rare earth elements (REEs), particularly rare earth permanent magnets (REPMs), within defined geographic clusters.

States involved:

The corridors will be established in mineral-rich coastal states with significant beach sand mineral (BSM) deposits:

- Odisha
- Kerala
- Andhra Pradesh
- Tamil Nadu

These states host monazite-bearing beach sands, the principal source of rare earths in India.

Aim of the initiative:

- Build a domestic rare earth value chain from extraction to finished products.
- Support clean energy transition (EVs, wind turbines, solar power).
- Operationalise National Critical Minerals Mission at the state level.

Key features:

1. **Integrated corridor approach:**
   - Co-location of mining, separation, processing, R&D and manufacturing facilities to reduce logistics and technology gaps.

2. **Linkage with Magnet Manufacturing Scheme**
   - Aligns with the 7,280 crore Sintered Rare Earth Permanent Magnet (REPM) scheme, targeting 6,000 MTPA domestic capacity.

3. **State-led execution:**
   - Shifts focus from only national policy to state-level value addition and industrial clustering.

4. **Incentive-backed manufacturing:**
   - Sales-linked incentives (6,450 crore) and capital subsidy (750 crore) for integrated REPM units.

5. **Strategic supply chain resilience:**
   - Addresses India's heavy reliance on imports (over 53,000 MT magnets imported in FY25) amid global concentration of REE processing.

6. **Support for high-tech sectors:**
   - Enables domestic availability of inputs critical for EVs, renewables, electronics, aerospace and defence.

Major Coastal Potential (Beach Sand Monazite)
- The primary source of Rare Earth Elements (REEs) in India is Monazite, found in beach placer sands.
- These deposits are rich in Light REEs like Neodymium and Praseodymium:
- Odisha: Focused around the Chhatrapur (OSCOM) region. It has the highest current processing activity.
- Kerala: Significant reserves in Chavara and near Vizhinjam Port. Kerala is a major hub for the new Rare Earth Corridor initiative.
- Andhra Pradesh: Coastal deposits in Srikakulam, Visakhapatnam, and Nellore.
- Tamil Nadu: Rich coastal zones in Manavalakurichi and other southern districts.

Emerging Inland Rare Earth Mineral Potential:
Recent exploration by the Geological Survey of India (GSI) has shifted focus to inland deposits which may contain more sought-after Heavy REEs.
- Arunachal Pradesh: The Papum Pare district has emerged as a high-potential frontier, specifically noted for its high Neodymium content in river-valley soils.
- Rajasthan: Significant in-situ REE oxides (over 1 lakh tonnes) were discovered in Balotra. Exploration is also active in Sirohi and Bhilwara.
- West Bengal: Exploration is underway in the Purulia district (South Purulia Shear Zone).
- Gujarat: The Amba Dongar and Kamthai carbonatite complexes are major potential sites for REE extraction.
- Madhya Pradesh: Recent findings in the Singrauli coalfields show promising REE deposits associated with coal seams.
- Jharkhand & Chhattisgarh: Heavy REE-bearing stream placers have been identified in the Chotanagpur Granite Gneiss Complex.

Union Budget 2026–27: Reforms in Education and Skill Sectors

Context:
The Union Budget 2026–27 announced a major push to education, skilling, and employment linkage, including university townships, higher school-sector funding, and a high-powered panel on education-to-employment pathways.

About Union Budget 2026–27: Reforms in Education and Skill Sectors:

What is it?
- In the Union Budget 2026–27, presented by Nirmala Sitharaman, the government announced structural

and financial reforms to strengthen education, skilling, and employability, in line with NEP 2020 and the vision of Viksit Bharat.

Announcement made in Budget 2026-27:

1. Structural Reforms & Governance

- High-Powered 'Education to Employment and Enterprise' Standing Committee: A new committee will be set up to recommend measures to make India a global leader in services, aiming for a 10% global share by 2047.
- AI Integration: The committee will assess the impact of AI on jobs and propose specific measures for embedding AI in the education curriculum from the school level onwards.
- University Townships: The government will support States in creating 5 University Townships near major industrial and logistic corridors to host universities, skill centers, and research institutions.

2. Skilling for the Future & Orange Economy:

- AVGC Content Creator Labs: To support the Animation, Visual Effects, Gaming, and Comics (AVGC) sector, Content Creator Labs will be established in 15,000 secondary schools and 500 colleges.
- Corporate Mitras: Professional institutions like ICAI and ICSI will design modular courses to develop a cadre of 'Corporate Mitras' in Tier-II and Tier-III towns to assist MSMEs with compliance.
- Samarth 2.0: This initiative will modernize the textile skilling ecosystem through collaboration with industry and academic institutions.
- Viksit Bharat Young Leaders Dialogue: Many proposals in this budget were inspired by innovative ideas shared by youth during this dialogue.

3. Specialized Training & Health Education:

- Allied Health Professionals (AHPs): 100,000 AHPs will be added over the next 5 years by establishing and upgrading institutions in 10 disciplines like radiology and optometry.
- Caregiver Training: 5 lakh caregivers will be trained in wellness, yoga, and medical device operation to build a strong Care Ecosystem.
- AYUSH Excellence: 3 new All India Institutes of Ayurveda will be established, and AYUSH pharmacies will be upgraded to provide more skilled personnel.
- Veterinary Professionals: A loan-linked subsidy scheme will support private veterinary colleges to scale up the availability of veterinary professionals by more than 20,000.

4. Infrastructure & Inclusivity

- Girls' Hostels: To promote women in STEM (Science, Technology, Engineering, and Math), the government will establish 1 girls' hostel in every district through capital support.
- National Institute of Design (NID): A new NID will be established in the Eastern region of India through a challenge route.
- Hospitality & Tourism: The National Council for Hotel Management will be upgraded to a National Institute of Hospitality. Additionally, 10,000 guides will be upskilled at 20 iconic tourist sites through an IIM-collaboration course.
- Divyangjan Kaushal Yojana: Industry-relevant and customized training will be provided to Divyangjans for roles in IT, AVGC, and Hospitality.

5. Scientific Research:

- Astrophysics: 4 major telescope infrastructure facilities (like the National Large Solar Telescope d COSMOS-2 Planetarium) will be set up or upgraded for immersive learning experiences.

The New Income Tax Act, 2025

Context:

The Union Budget 2026–27 announced that the Income Tax Act, 2025 will come into force from April 1, 2026, replacing India's six-decade-old income tax law.
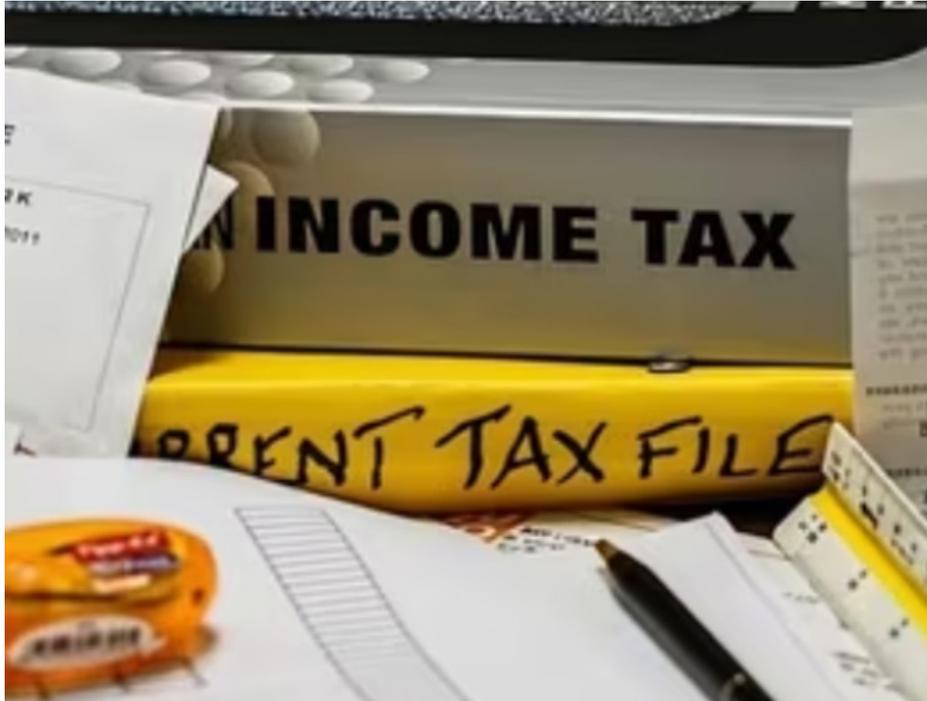
About The New Income Tax Act, 2025:

1. Implementation Timeline:

- Effective Date: The Income Tax Act, 2025, will officially come into effect from April 1, 2026.
- Record Completion: The comprehensive review of the old 1961 Act was completed in record time following its announcement in July 2024.

2. Simplification and Ease of Compliance:

- User-Friendly Design: The government is redesigning tax forms and rules to be simple enough for ordinary citizens to comply with without needing professional help.
- Acquaintance Period: Simplified rules and forms will be notified shortly to give taxpayers sufficient time to understand the new requirements.

3. Staggered Filing Deadlines:

The new Act introduces different due dates for filing returns based on the category of the taxpayer:
- ITR 1 and ITR 2: Individuals will continue to have a filing deadline of July 31.
- Non-Audit Business/Trusts: The due date for these entities has been extended to August 31.

4. Extended Revision Window:

- Filing Revised Returns: Taxpayers now have more time to correct mistakes. The deadline to file a revised or belated return is extended from December 31 to March 31 of the following year.
- Nominal Fee: A fee of 1,000 or 5,000 (depending on whether income is above or below 5 lakh) will apply for revisions made after December 31.

5. Updated Return Scope:

- Post-Reassessment Filing: Taxpayers can now update their returns even after reassessment proceedings have started, by paying an additional 10% tax rate over the applicable year's rate.

6. Penalty and Prosecution Rationalization:

- Integrated Proceedings: Assessment and penalty proceedings will be finalized together through a common order to reduce litigation and multiple proceedings.
- Decriminalization: Technical defaults, such as failure to produce books of account or get accounts audited, have been decriminalized and converted into fees.
- Reduced Punishment: Maximum imprisonment for most offences is reduced to 2 years (down from 7 years), and courts are empowered to convert these into fines.

7. Special Disclosure Scheme (FAST DS):

- Foreign Asset Disclosure: A one-time 6-month window called the Foreign Assets of Small Taxpayers Disclosure Scheme (FAST DS) 2026 is introduced for individuals like students and relocated NRIs.
- Immunity: Taxpayers can disclose overseas assets/income (under 1 crore or 5 crore, depending on the category) and gain immunity from prosecution by paying specified taxes or fees.

India, UK Sign Social Security Agreement for Temporary Employees

Context:

India and the United Kingdom have signed a Social Security Agreement (SSA) to prevent double social security contributions for employees on short-term assignments.

About India, UK Sign Social Security Agreement for Temporary Employees:

What is the Agreement?

- India and the United Kingdom have signed a reciprocal Social Security Agreement, also referred to as a Double Contributions Convention (DCC), to eliminate the burden of dual social security payments for employees temporarily working in each other's territory.
- The agreement allows employees on assignments of up to 36 months to continue contributing to their home country's social security system, thereby avoiding double payments.

Nations Involved: India and United Kingdom

Aim:

- Prevents employees and employers from paying contributions in both countries simultaneously.
- Supports short-term overseas assignments in sectors such as IT, finance, consulting, and engineering.
- Forms part of commitments made under the Comprehensive Economic and Trade Agreement signed in July 2025.
- Reduces cost burdens on firms sending skilled professionals abroad.

Key Features:

- Coverage for Temporary Assignments (Up to 36 Months): Employees remain covered under their home country's social security system during temporary postings.
- Certificate of Coverage (CoC) Mechanism: Workers can obtain a CoC through the Employees' Provident Fund Organisation to certify exemption from host-country contributions.
- Reciprocal Application: Applies equally to Indian employees in the UK and UK employees in India.
- Prevention of Social Security Record Fragmentation: Ensures continuity in pension and benefit records.
- Implementation Linked to Trade Deal: The agreement will enter into force alongside the India–UK CETA, expected in the first half of the year.

Significance:

- India's strength in IT and professional services benefits from smoother mobility of skilled workers.
- Supports the broader India–UK trade architecture, projected to significantly enhance bilateral trade.
- Avoids duplicative employer contributions, improving global competitiveness.

Petroleum and Natural Gas Regulatory Board (PNGRB)

Context:

The Petroleum and Natural Gas Regulatory Board (PNGRB) has approved new guidelines for the injection of Compressed Biogas (CBG) into Natural Gas Pipeline (NGPL) and City Gas Distribution (CGD) networks.

About Petroleum and Natural Gas Regulatory Board (PNGRB):

What it is?

- PNGRB is a statutory regulatory body responsible for regulating the downstream petroleum and natural gas sector in India.

Aim:

- To protect consumer interests in petroleum and natural gas markets.
- To promote fair trade and competition among entities.
- To ensure uninterrupted and adequate supply of petroleum, petroleum products, and natural gas across the country.

Key Functions:

- Regulatory Oversight: Authorizes and regulates entities to build and operate pipelines, LNG terminals, and CGD networks.
- Market & Consumer Protection: Monitors prices, ensures fair competition, and prevents restrictive trade practices.
- Access & Tariff Regulation: Specifies pipeline access codes and regulates transportation rates for common/ contract carriers.
- Technical & Safety Standards: Lays down technical standards, specifications, and safety norms for petroleum and gas infrastructure.
- Data & Infrastructure Governance: Maintains sectoral data bank and oversees infrastructure expansion for equitable distribution.

Significance of Recent Approval:

- Mainstreams Green Gas: Enables integration of domestically produced CBG into NGPL and CGD networks.
- Enhances Energy Security: Reduces dependence on imported LNG by promoting indigenous bio-gas production.
- Boosts Project Viability: Assured pipeline-based evacuation improves financing and investment prospects for CBG projects.

40 Years of Agricultural and Processed Food Products Export Development Authority (APEDA)

Context:

Union Minister extended greetings to the Agricultural and Processed Food Products Export Development Authority (APEDA) on its 40th establishment day.

About 40 Years of Agricultural and Processed Food Products Export Development Authority (APEDA):

What it is?

- APEDA is a statutory export promotion authority established under the APEDA Act, 1985 (Act 2 of 1986) to promote the export of agricultural and processed food products from India. It replaced the Processed Food Export Promotion Council (PFEPC).
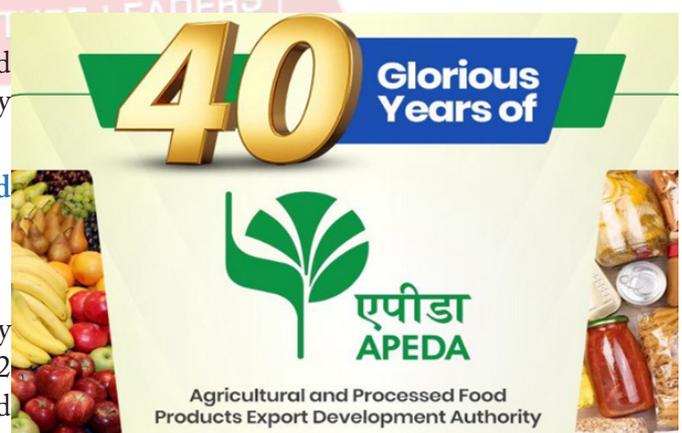
Established In:

- Act passed: December 1985
- Came into effect: 13 February 1986
- Administrative Ministry: Functions under the Ministry of Commerce & Industry, Government of India.

Key Functions of APEDA:

- Export Promotion & Market Development: Provides financial assistance, market intelligence, and global branding support to boost agri-exports.
- Registration of Exporters (RCMC): Registers exporters of scheduled products and ensures compliance with export norms.
- Quality Standards & Certification: Fixes export standards and monitors quality, including inspection of meat and processed products.
- Packaging & Value Addition Support: Promotes improved packaging, labeling, and value-added processing to enhance global competitiveness.
- National Programme for Organic Production (NPOP): Acts as Secretariat for certification and regulation of organic exports.
- Data Collection & Trade Statistics: Collects and publishes export data to support policy formulation and trade planning.
- Monitoring Imports of Sugar: Entrusted with oversight of sugar imports.
- Wide Product Coverage: Includes fruits, vegetables, basmati rice, meat, dairy, cereals, honey, guar gum, floriculture, herbal plants, cashew, beverages, and more.

Significance of APEDA:

- Boost to Agricultural Exports: India's agricultural exports have crossed billion in recent years, with APEDA playing a pivotal facilitative role.
- Farmer Income Enhancement: By opening new international markets, APEDA strengthens rural livelihoods and aligns with the goal of doubling farmers' income.

India's Surplus Labour Trap

Context:

The recent nationwide strikes by gig workers, contractual teachers, and ASHA/Anganwadi workers have highlighted the surplus labour trap, where millions remain in low-productivity, precarious jobs.

About India's Surplus Labour Trap:

What is India's Surplus Labour Trap?

- The surplus labour trap refers to a structural economic condition where a vast portion of the workforce is stuck in low-wage, low-productivity roles (like gig work or subsistence farming) because the formal economy fails to create enough high-quality jobs.

Data/Facts on India's Labour Market:

- Informality: Approximately 90% of India's 650 million-strong workforce is employed in the unorganized sector, lacking formal contracts or social safety nets.
- Labour Force Participation: Around 350 million people of working age do not seek work, indicating a massive pool of discouraged or underutilized human capital.
- Low Compensation: Community health workers (ASHAs/Anganwadis) receive honoraria as low as 7,000– 12,000 per month, which often falls below the statutory minimum wage.
- Public Sector Desperation: Thousands of college graduates frequently apply for a handful of low-level government Group D posts (peons, drivers), reflecting the dearth of dignified private-sector roles.

Potential of the Indian Labour Market:

- Demographic Dividend: India has one of the youngest populations globally, providing a massive window for productivity if skilled correctly.

E.g. The rise of Global Capability Centres (GCCs) in Bengaluru shows how Indian talent can power high-end global services.

- Digital Economy Leadership: The rapid expansion of the digital ecosystem can create new forms of flexible employment.

E.g. The ONDC (Open Network for Digital Commerce) aims to democratize e-commerce, potentially empowering millions of small retailers and delivery partners.

- Manufacturing Hub (China Plus One): Global supply chain shifts offer a chance to absorb surplus agricultural labour into factories.

E.g. Apple's ecosystem expansion (via Foxconn/Tata) in Tamil Nadu and Karnataka is creating thousands of formal manufacturing jobs for women.

- Green Energy Transition: The shift to renewables can create a new green workforce.

E.g. The PM-Surya Ghar Muft Bijli Yojana is expected to create a demand for thousands of solar technicians and installers across rural India.

- Social Infrastructure Hub: Expanding health and education can turn surplus labour into productive care economy professionals.

E.g. The expansion of AIIMS-like institutions and medical colleges across States is slowly formalizing healthcare roles in tier-2 cities.

Challenges Associated:

- Job Precarity (Gig-ification): Algorithmic management and 10-minute delivery mandates prioritize speed over worker safety.

E.g. Recent strikes by Zomato and Blinkit workers in Gurgaon highlight the fatal risks and lack of accident cover in quick-commerce.

- Stagnant Real Wages: Inflation has outpaced the honoraria and wages of low-end workers, leading to reduced purchasing power.

E.g. MNREGA wage rates in several states remain below the market agricultural wage, failing to act as a proper safety net.

- Skill Mismatch: A high percentage of graduates lack the technical skills required for modern industry.

E.g. The 2024 India Skills Report noted that only about 50% of graduates are truly employable, leading to over-educated peons.

- Gender Discrimination: Women bear the brunt of informalization and voluntary community work without fair pay.

E.g. Anganwadi workers' protests in Delhi and Maharashtra highlight how they are treated as volunteers despite performing essential state functions.

- Weak Labour Enforcement: Existing laws are often bypassed through complex sub-contracting chains.

E.g. The Silkyara tunnel collapse exposed how sub-contracted workers often operate without basic safety protocols or insurance in high-risk zones.

Way Ahead:

- Formalize the Informal: Implement the Social Security Code with clear rules to ensure gig and platform workers receive health and accident insurance.
- Invest in Human Capital: Shift fiscal priority from physical infrastructure (stadiums/campuses) to human infrastructure by hiring regular, tenured teachers and health staff.
- Living Wage Transition: Reclassify community workers (ASHAs/Anganwadis) as civil posts or formal employees to ensure they receive at least the national floor minimum wage.
- Strengthen Collective Bargaining: Protect the rights of workers to form unions and negotiate without fear of repressive administrative action or lathi charges.

- Decentralized Industrialization: Encourage small and medium enterprises (MSMEs) in rural areas to absorb surplus labour closer to home, reducing the trap of desperate urban migration.

Conclusion:

India stands at a crossroads where its vast labour force is either its greatest asset or a ticking socio-economic time bomb. Transitioning from an economy of replaceable labour to one of dignified employment requires moving beyond rhetorical sympathy toward concrete fiscal commitment. Only by empowering the bottom of the pyramid can India generate the aggregate demand necessary for sustainable, long-term growth.

Export Promotion Mission

Context:

Union Commerce and Industry Minister launched seven new interventions under the Export Promotion Mission (EPM) to strengthen MSME exports and global competitiveness.

About Export Promotion Mission:

What it is?

- The Export Promotion Mission (EPM) is a flagship initiative of the Department of Commerce aimed at empowering Micro, Small and Medium Enterprises (MSMEs) to participate effectively in global trade.
- It adopts a holistic ecosystem approach by combining financial assistance, trade facilitation and export infrastructure support to boost India's exports.
- Implementing Agencies: The Mission is implemented by the Department of Commerce.

Aim:

- To enhance global market access and export competitiveness of Indian MSMEs.
- To reduce structural barriers such as high cost of capital, logistics disadvantages and compliance challenges.
- To promote inclusive, broad-based export growth aligned with India's global trade ambitions.

Key Features:

- Dual framework – Niryat Protsahan & Niryat Disha: Combines financial enablers with trade ecosystem support under a digitally monitored system.
- Trade Finance Support: Includes export factoring, e-commerce credit facilities, interest subvention (2.75%) and credit guarantees for MSMEs.
- Compliance & Certification Support (TRACE): Partial reimbursement for testing, inspection and certification to meet international standards.
- Logistics & Overseas Warehousing (FLOW & LIFT): Support for overseas warehousing, e-commerce export hubs and freight cost reimbursement.
- Trade Intelligence & Capacity Building (INSIGHT): Strengthens district-level export hubs and market intelligence systems.
- MSME-focused Financial Assistance: Credit support up to 5 crore, interest subvention, and guarantee coverage for digital exporters.
- Market Integration: Supports initiatives like Bharat Mart in Dubai to connect exporters with GCC, Africa and European markets.

Significance:

- Strengthens MSMEs as drivers of India's export-led growth.
- Improves access to global markets through FTAs and trade facilitation.

SBI launches 'CHAKRA' Centre of Excellence

Context:

State Bank of India (SBI) has launched 'CHAKRA', a dedicated Centre of Excellence (CoE) to strengthen financing for eight critical sunrise sectors.

About SBI launches 'CHAKRA' Centre of Excellence:

What is CHAKRA?

- CHAKRA (Centre of Excellence) is a knowledge-led institutional platform created by SBI to enhance its capability in financing capital-intensive sunrise sectors by combining sectoral expertise, risk assessment, and innovative financing models.

Launched by: State Bank of India

Aim:

- To build institutional expertise in emerging, technology-led sectors
- To improve the flow of debt capital (domestic and international) into sunrise industries
- To develop innovative, policy-aligned financing structures

Key features:

- Focus on 8 sunrise sectors:
- Renewable Energy
- Advanced Cell Chemistry & Battery Storage
- Electric Mobility
- Green Hydrogen
- Semiconductors
- Decarbonisation
- Smart Infrastructure
- Data Centre Infrastructure

Knowledge-driven approach:

- Publication of white papers and sectoral reports
- Hosting industry roundtables for investors and policymakers

Enhanced financing capability:

- Advanced risk assessment frameworks
- Tailor-made financing aligned with evolving business models

Ecosystem engagement:

- Structured collaboration with development finance institutions, multilateral agencies, NBFCs, banks, start-ups, academia, and policy think tanks

Builds on existing framework:

- Extends SBI's earlier Centre of Excellence for MSMEs.

Significance:

- Addresses financing needs of sectors expected to attract ~ 100 lakh crore of capital expenditure by 2030.
- Strengthens India's climate finance and green transition architecture.

Miniratna Category-I status to Yantra India Limited

Context:

Raksha Mantri Shri Rajnath Singh approved the grant of Miniratna Category-I status to Yantra India Limited (YIL).

About Miniratna Category-I status to Yantra India Limited:

What is Miniratna status?

- Miniratna is a classification given to profit-making Central Public Sector Enterprises (CPSEs) to grant them enhanced financial and operational autonomy, short of Navratna/Maharatna levels, so they can operate more efficiently and competitively.
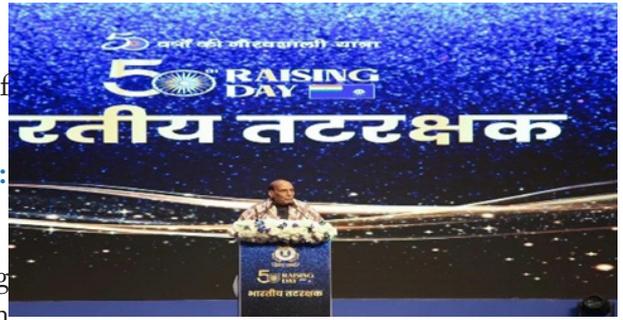
Historical background:

- Introduced in October 1997 by the Government of India.
- Objective: To decentralise decision-making and empower efficient CPSEs (other than Navratnas) through delegated financial powers.

Types of Miniratna CPSEs:

1. Miniratna Category-I – Higher autonomy
2. Miniratna Category-II – Moderate autonomy

Eligibility criteria for Miniratna status

- Common conditions (for both Category-I & II)
- Continuous profit in the last 3 years
- Positive net worth
- No default in repayment of Government loans/interest
- No dependence on budgetary support or Government guarantees
- Board to be restructured with at least three non-official (independent) Directors

Additional criteria:

Category-I:

- Pre-tax profit of 30 crore or more in at least one of the last three years

Category-II:

- Profit in all last three years (no minimum profit threshold specified)

Key features & delegated powers (Category-I focus)

Capital expenditure:

- Power to incur capex up to 500 crore or net worth (whichever is less) without Government approval.
- Covers new projects, modernisation, and purchase of equipment.

Joint ventures & subsidiaries:

- Same financial limits as capital expenditure.
- Enables faster expansion and collaboration.

Mergers & acquisitions:

- Permitted if aligned with growth plan and core business.
- Investments abroad require CCEA to be kept informed.

Human Resource Development (HRD):

- Boards can design and implement HR policies, training, VRS, CRS.
- Powers can be further delegated for appointments, postings, transfers below Board level.

Foreign travel:

- CEOs can approve emergency foreign tours up to 5 days for functional directors (with intimation).

Technology & strategic alliances:

- Boards can enter technology JVs, strategic alliances, and acquire know-how, subject to Government guidelines.

Union Budget 2026–27: Big Push to Livestock and Fisheries Growth

Context:

The Union Budget 2026–27 significantly increased allocations for livestock and fisheries (increase of 26.7%), recognising them as the main drivers of agriculture growth (4.6% in FY26).

About Union Budget 2026–27: Big Push to Livestock and Fisheries Growth

What it is?

- The allocation for the Ministry of Fisheries, Animal Husbandry, and Dairying has been increased to 8,915.26 crore for FY 2026-27.
- This shift acknowledges that while traditional crops grew at ~3.5%, the livestock and fisheries sectors surged at ~7.1%, now contributing nearly 16% of total farm income.

Livestock Sector: Building Professional & Value Chains:

The budget focuses on Saturation and Professionalization to safeguard animal health and boost productivity.

- Veterinary Workforce Expansion: A landmark target to add 20,000+ veterinary professionals.
- Loan-linked Capital Subsidy: A new scheme to incentivize the private sector to establish veterinary colleges, hospitals, diagnostic labs, and breeding centers.
- Rashtriya Gokul Mission (RGM): Received a major push with 800 crore to enhance the productivity of indigenous cattle breeds.
- Entrepreneurship Support: An Integrated Scheme for Entrepreneurship Development (outlay: 500 crore) will provide credit-linked subsidies to startups and Livestock FPOs.
- Tax Relief for Cooperatives: Tax deductions on cattle feed supply and inter-cooperative dividends were introduced to strengthen dairy cooperatives.

Fisheries Sector: Blue Economy & Export Dominance:

The fisheries sector received its highest-ever budgetary support of 2,761.80 crore, with a heavy emphasis on infrastructure and global trade.

Inland & Coastal Infrastructure:

- Reservoir Development: Integrated development of 500 reservoirs and Amrit Sarovars to boost inland fish production.
- Empowerment through FPOs: Strengthening coastal value chains by involving women-led groups and 200+ fisheries startups.

Radical Export Reforms:

To make Indian seafood globally competitive against rising trade headwinds, the government introduced several strategic tax and trade measures:

Reform	Impact
Duty-Free Input Imports	Limit raised from 1% to 3% of export turnover for seafood processing.
EEZ Catch Exemption	Fish caught in the Exclusive Economic Zone (EEZ) or high seas is now duty-free.

Foreign Port Landings	Treating fish landed at foreign ports as exports, simplifying logistics for deep-sea fleets.
Courier Export Cap	Removal of the 10 lakh cap to enable small startups to access global e-commerce markets.

Solid Fuel Ducted Ramjet (SFDR) Technology

Context:

Defence Research and Development Organisation (DRDO) successfully demonstrated Solid Fuel Ducted Ramjet (SFDR) technology from Integrated Test Range, Chandipur.

About Solid Fuel Ducted Ramjet (SFDR) Technology:

What is it?

- SFDR is an air-breathing propulsion system for missiles that uses atmospheric oxygen for combustion and solid fuel burned in a controlled manner to provide sustained thrust at supersonic speeds.
- Unlike conventional rockets, it maintains high energy throughout flight—especially in the terminal phase.

Developed by: Defence Research and Development Organisation (DRDO)

How it works?

1. Initial acceleration: A nozzle-less ground booster propels the missile to the required Mach number.
2. Ramjet takeover: Once sufficient speed is reached, atmospheric air is ingested and compressed by forward motion (no rotating compressors).
3. Controlled combustion: Solid fuel burns steadily inside the duct as air flows through, regulated by a fuel flow controller.
4. Sustained thrust: Continuous thrust keeps the missile fast and manoeuvrable till impact.

Key features

- Air-breathing propulsion: Uses atmospheric oxygen instead of carrying an onboard oxidiser, allowing more space for fuel and extending missile range.
- Sustained high-speed flight: Unlike rocket motors that burn out quickly, SFDR provides continuous thrust, maintaining supersonic speed throughout flight.
- High terminal energy: Retains high velocity in the final phase, increasing impact force and the probability of successfully destroying fast, manoeuvring targets.
- Greater manoeuvrability in end-game: Continuous thrust enables sharp evasive turns near the target, making interception by enemy countermeasures difficult.
- Reduced drag losses and improved range: Optimised airflow and sustained propulsion minimise energy loss, allowing engagement at longer distances.
- Indigenous combustion control at supersonic speeds: Stable fuel-air combustion at high Mach numbers has been successfully mastered domestically, a major technological breakthrough.

Applications:

- Long-range air-to-air missiles (BVRAAMs): Enables fighter aircraft to engage enemy jets from extended ranges while maintaining high kill effectiveness.
- Air superiority and BVR combat advantage: Allows pilots to strike first and disengage safely, shifting the balance in beyond-visual-range aerial warfare.
- Indigenisation of advanced propulsion: Reduces reliance on foreign missile technologies and strengthens India's self-reliant defence ecosystem under Aatmanirbhar Bharat.

Seven Chakras of the India–AI Impact Summit 2026

Context:

India is hosting the India–AI Impact Summit 2026 – the first global AI summit in the Global South, with participation from 100+ countries, structured around Seven Chakras and guided by Three Sutras: People, Planet, Progress.

About Seven Chakras of the India–AI Impact Summit 2026:

What it is?

- The Seven Chakras are thematic Working Groups that translate the three Sutras into actionable policy, governance, and implementation pathways for responsible and inclusive AI at global scale.
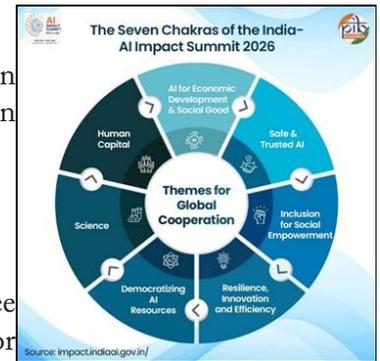
Seven Chakras & Their Importance:

Chakra	Why it matters?
Human Capital	Prevents large-scale job displacement shocks, enables smooth workforce transition, and positions India as a global AI talent hub supporting equitable and inclusive growth.
Inclusion for Social Empowerment	Ensures AI benefits reach women, farmers, informal workers, persons with disabilities, and linguistic minorities, embedding social justice and equity into AI systems.
Safe and Trusted AI	Builds public trust through transparency, accountability, and bias mitigation, ensuring innovation progresses without undermining democratic values or rights.
Science	Accelerates breakthroughs in health, climate, energy, and agriculture, while narrowing the Global North–South research divide through collaborative and open science.
Resilience, Innovation & Efficiency	Aligns AI expansion with environmental sustainability, promotes energy-efficient compute, and reduces the carbon footprint of large-scale AI infrastructure.
Democratising AI Resources	Addresses the global digital divide by expanding access to data, compute, and models, enabling startups, academia, and developing countries to innovate beyond Big Tech dominance.
AI for Economic Development & Social Good	Converts AI capability into measurable development outcomes in agriculture, healthcare, education, justice delivery, productivity, and inclusive economic growth.

United States–India Interim Trade Agreement

Context:

India and the United States have announced a framework for a United States–India Interim Trade Agreement, marking a major breakthrough in reciprocal market access and tariff realignments.

About United States–India Interim Trade Agreement:

What it is?

- The U.S.–India Interim Trade Agreement is a temporary, outcome-oriented trade framework designed to deliver early harvest commitments on tariffs, market access, and non-tariff barriers, while negotiations continue for a full-fledged Bilateral Trade Agreement (BTA).

Aim:

- To establish reciprocal and balanced trade based on mutual interests.

- To expand market access for goods, agriculture, technology, and energy.
- To enhance supply-chain resilience and economic security.
- To pave the way for a comprehensive BTA with durable trade rules.

Key Features of the Interim Trade Agreement:

- **Tariff Liberalisation by India:** India will eliminate or reduce tariffs on U.S. industrial goods and a wide range of agricultural products, including ethanol by-products (DDGs), oilseeds, fruits, nuts, wine, and spirits.
- **Reciprocal Tariff Framework by the U.S.:** The U.S. will apply a reciprocal tariff rate of 18% initially on select Indian exports, with a pathway to tariff removal on priority sectors such as generic pharmaceuticals, gems & jewellery, and aircraft parts upon successful conclusion.
- **Relief from National Security Tariffs:** Removal of U.S. Section 232 tariffs on Indian aircraft parts, steel, aluminium-linked items, and preferential tariff-rate quotas for automotive components.
- **Rules of Origin:** Jointly agreed rules to ensure that trade benefits accrue primarily to India and the U.S., preventing third-country circumvention.
- **Non-Tariff Barrier (NTB) Reforms:** India commits to easing long-standing barriers in medical devices, ICT goods, and agricultural imports, including import licensing and standards recognition.
- **Standards & Conformity Cooperation:** Both sides will align technical regulations, testing, and conformity assessment procedures to improve ease of doing business.
- **Digital Trade Commitments:** Agreement to address discriminatory digital trade practices and establish a pathway for ambitious digital trade rules under the BTA.
- **Supply Chain & Economic Security Alignment:** Cooperation on export controls, investment screening, and countering non-market policies of third countries.
- **Strategic Purchases & Technology Trade:** India plans to purchase USD 500 billion worth of U.S. energy, aircraft, critical minerals, and technology (including GPUs for data centres) over five years.

B-READY Assessment

Context:

The inclusion of India in the Business Ready (B-READY) 2026 assessment has renewed attention on India's business reform trajectory.

About the B-READY Assessment:

What is B-READY?

- World Bank Group's Business Ready (B-READY) is a global benchmarking exercise designed to assess the business and investment climate across economies. It replaces the earlier Doing Business Report with a more transparent, comprehensive, and modern methodology.

Launched In: Following the discontinuation of the World Bank's Doing Business Report (DBR) Report in 2020, the World Bank launched the B-Ready Assessment in 2024.

Organisation Involved:

- Developed and administered by the World Bank Group (WBG)
- Data collected through expert consultations and firm-level surveys (World Bank Enterprise Surveys – WBES)

Aim of B-READY:

- To provide a quantitative and evidence-based assessment of the business environment.
- To evaluate how regulations and public services support private sector development.
- To promote inclusive, sustainable, and digitally enabled economic growth.

Three Pillars of B-READY

- Pillar I – Regulatory Framework
- Assesses rules and regulations governing business entry, operation, and closure.
- Focuses on statutory laws (de jure framework).

Pillar II – Public Services

- Evaluates government-provided infrastructure and institutional support.
- Includes digital systems, licensing authorities, dispute resolution bodies, etc.

Pillar III – Operational Efficiency

- Measures ease of compliance and real-world implementation (de facto).
- Captures nationwide firm-level experiences through surveys.

Key Features of B-READY:

- Lifecycle-Based Assessment Framework: Evaluates businesses across ten topics covering the complete firm lifecycle—entry, operation/expansion, and exit—ensuring a holistic understanding of regulatory and market conditions.
- Three-Pillar Structure for Comprehensive Evaluation: Built on Regulatory Framework, Public Services, and Operational Efficiency, integrating legal provisions (de jure) with real-world implementation (de facto) through firm surveys.
- Integration of Cross-Cutting Themes: Embeds Digital Adoption, Environmental Sustainability, and Gender Inclusion across all topics—making it aligned with modern economic governance priorities.
- Dual Data Collection Methodology: Combines expert consultations (laws and regulations) with firm-level surveys (World Bank Enterprise Surveys) to ensure both statutory accuracy and ground-level realism.
- Annual, Transparent Global Benchmarking: Conducted by the World Bank Group and published annually, it replaces the earlier Doing Business Report with improved methodology, transparency, and broader institutional coverage.

Ayushman Sahakar Scheme

Context:

The Union Minister for Home and Cooperation, provided an update in the Rajya Sabha regarding the implementation and funding framework of the Ayushman Sahakar Scheme.

About Ayushman Sahakar Scheme:

What it is?

- Ayushman Sahakar is a dedicated scheme of the National Cooperative Development Corporation (NCDC) to provide financial assistance to cooperative societies for establishing and expanding healthcare infrastructure across India.

Launched in:

- 2020 (Notified by NCDC in alignment with National Health Policy 2017)

Ministry:

- Implemented by NCDC
- Under the administrative control of the Ministry of Cooperation

Aim:

- To promote affordable, holistic, and community-owned healthcare through cooperative societies.
- To strengthen AYUSH and digital health participation in line with India's public health objectives.

Key Features:

- Eligible Institutions: Any Cooperative Society registered under State or Multi-State Cooperative Societies Act with healthcare provisions in its bye-laws is eligible.
- Comprehensive Coverage: Supports infrastructure, modernization, AYUSH services, digital health, telemedicine, insurance, and working capital for diverse healthcare facilities.
- Flexible Financial Assistance: Provides term/investment loans up to 8 years (with 1–2 year moratorium) based on actual project requirements.

- Women Incentive: Offers 1% interest rebate to women-majority cooperatives, subject to timely repayment compliance.
- Structured Funding & Security: Funding through State or direct NCDC route (up to 90% loan) with defined collateral/guarantee mechanisms.

Significance:

- Strengthens Cooperative Federalism: Promotes decentralized healthcare delivery through grassroots cooperative institutions.
- Community Ownership in Health: Encourages participatory governance and accountability in service delivery.
- Boost to AYUSH Sector: Enhances infrastructure for traditional systems of medicine, aligning with India's integrative healthcare model.

Creative Industries as Growth Engines

Context:

The creative industries are in the spotlight following the Union Budget 2026-27 and the Economic Survey 2025-26, which projected a requirement of 2 million professionals in the AVGC sector by 2030 and announced the establishment of 15,000 Content Creator Labs in schools.

About Creative Industries as Growth Engines:

What is the Orange Economy?

- The Orange Economy (a term coined by Iván Duque and Felipe Buitrago) refers to the ecosystem of activities where value is derived primarily from creativity, culture, and intellectual property.
- It bridges the gap between traditional heritage (arts, crafts, festivals) and modern digital industries (gaming, VFX, OTT platforms). In the Indian context, it is being hailed as the dawn of an era where imagination is a tradeable global commodity.

GROWTH AND SCALE

Animation & VFX: ₹103 bn (2024) → ₹147 bn (2027)

AVGC professionals: ~300,000

Senior Talent: ~20%
Mid-Level: ~30%

India's AVGC sector is projected to require 2 million professionals by 2030

Key Stats on India's Creative Economy (2024-26):

- Sectoral Valuation: The media and entertainment (M&E) sector reached approximately 2.5 trillion (billion) in 2024, projected to hit 3.06 trillion by 2027.
- Employment Engine: The sector supports over 10 million livelihoods directly and indirectly, with creative occupations paying roughly 88% higher than non-creative roles.
- Export Growth: Creative services exports rose by 20% in 2023, contributing significantly to diversifying India's service basket beyond traditional IT.
- Gaming Explosion: India is now one of the world's largest gaming markets, with a revenue of 232 billion and a user base of nearly 500 million gamers.
- VFX Intensity: Modern Indian blockbusters now allocate up to 25-30% of total production costs specifically to visual effects.

Creative Economy as a Growth Engine:

- Massive Job Creation for Youth: The AVGC-XR sector is a labor-intensive digital industry that absorbs young talent from non-metro areas.

E.g. The government's projection of 2 million new jobs by 2030 has led to the rapid expansion of private design and animation studios in Tier-2 cities like Pune and Indore.

- Soft Power and Cultural Diplomacy: Exports of Indian content shape global narratives and boost tourism.

E.g. The global success of films like Project K and RRR has turned Indian cinematic locations into major tourism hubs for international audiences.

- Multiplier Effect on Urban Economies: Live entertainment and festivals stimulate hospitality, transport, and local retail.

E.g. Massive stadium concerts in Ahmedabad and Navi Mumbai in late 2025 saw a 40% spike in local hotel bookings and short-term gig employment.

- Technological Spillover: Innovations in gaming and VFX often find applications in healthcare, education, and defense (Digital Twins).

E.g. Indian AVGC firms are now using Unreal Engine (originally for games) to create immersive training simulations for Indian medical students.

- Democratization of Opportunity: Digital platforms allow creators from remote regions to monetize their talent directly.

E.g. The Creator's Corner initiative on DD National has successfully mainstreamed micro-influencers from rural India into the national advertising ecosystem.

Key Initiatives Taken So Far:

- WAVES Summit (2025): The World Audio Visual and Entertainment Summit created a global marketplace (WAVES Bazaar) for scripts and music rights.
- IICT Mumbai: The Indian Institute of Creative Technologies was established as a National Centre of Excellence to institutionalize AVGC-XR skilling.
- Content Creator Labs: Budget 2026 allocated 250 crore to set up labs in 15,000 secondary schools to introduce students to digital storytelling early.
- Create in India Challenge: A nationwide talent hunt across 33 categories that links winners to international platforms like the Tokyo and Madrid cultural festivals.

Challenges Associated with the Creative Economy:

- The Platform Trap: Creators are highly dependent on global algorithms that can demonetize or shadowban them without transparency.

E.g. Recent policy shifts in global short-video platforms led to a sudden 30% revenue drop for many Indian micro-influencers.

- IP Financing Gaps: Creative MSMEs struggle to get bank loans because they lack physical assets (machinery/land) to use as collateral.

E.g. Animation studios in Bengaluru often rely on high-interest private credit because banks do not yet fully recognize digital characters as valid collateral.

- Skill-Industry Mismatch: Many graduates know how to use software but lack fundamental storytelling and design principles.

E.g. Industry leaders at the 2026 IGDC (India Game Developer Conference) noted that while India has button-pushers, there is a shortage of original game designers.

- Infrastructure Bottlenecks: High-end rendering and cloud computing costs remain prohibitive for small independent studios.

E.g. Small Indian studios still outsource complex CGI rendering to overseas servers due to a lack of affordable local high-performance computing (HPC) clusters.

- Regulatory Complexity for Live Events: Organizers often need 10–15 separate clearances for a single concert, leading to delays and corruption.

E.g. Several international music festivals planned for early 2026 were reportedly scaled back due to the complexity of navigating multi-agency local permissions.

Way Ahead:

- Formalizing IP-Backed Lending: Collaborate with RBI to create a framework for using copyrights and trademarks as collateral for institutional credit.
- National AVGC Policy Implementation: Finalize the Model State Policy to ensure uniform incentives for creative clusters across all Indian states.
- AI-Native Creative Tools: Invest in domestic AI tools for animation and dubbing to reduce the cost of content production and global localization.

- Single-Window Clearance for Events: Operationalize the proposed LEDC (Live Entertainment Development Cell) to streamline permissions for concerts and festivals.
- Focus on Original IP: Shift from being the back-office (outsourcing) of Hollywood to a creator of original Indian IP that can be licensed globally.

Conclusion:

India's transition to a dominant Orange Economy represents a strategic evolution where imagination is organized into a scalable economic engine. By bridging the gap between classroom skilling and global market access, India is ensuring that its demographic dividend translates into a creative dividend. The next decade will see the Created in India tag become as globally synonymous with quality as Designed in California.

PM RAHAT Scheme

Context:

The Government has launched PM RAHAT (Road Accident Victim Hospitalization and Assured Treatment) to provide cashless treatment up to   1.5 lakh for road accident victims during the Golden Hour.

About PM RAHAT Scheme:

What it is?

- PM RAHAT is a national cashless emergency treatment scheme providing financial coverage up to   1.5 lakh per road accident victim for 7 days from the date of accident, with a focus on timely Golden Hour intervention.

Organisations involved:

- Ministry of Road Transport and Highways (MoRTH): Policy oversight; integration via Electronic Detailed Accident Report (eDAR) platform.
- National Health Authority (NHA): Claims processing through Transaction Management System (TMS 2.0).

Aim:

- To ensure no life is lost due to lack of immediate medical assistance after road accidents.
- To strengthen India's structured emergency response ecosystem.
- To provide financial certainty to hospitals, encouraging uninterrupted treatment.

Key features:

- Cashless Coverage: Up to   1.5 lakh per victim for 7 days from accident date.
- Golden Hour Focus: Integration with 112 helpline for rapid hospital access.
- Stabilization Window: 24 hours (non-life-threatening) and 48 hours (life-threatening cases).
- Digital Integration: Seamless linkage between eDAR (MoRTH) and TMS 2.0 (NHA) for end-to-end claim management.
- Police Authentication: Mandatory confirmation within 24–48 hours to ensure accountability.
- Funding Mechanism: Through Motor Vehicle Accident Fund (MVAF), insured cases via insurance contributions, uninsured/Hit & Run via budgetary support.
- Time-bound Payment: Claims approved by State Health Authorities paid within 10 days.
- Grievance Redressal: District-level oversight by Road Safety Committee chaired by District Collector/ DM.

Significance:

- Addresses India's high road accident fatality burden, where nearly 50% of deaths are preventable with timely treatment.
- Strengthens the Good Samaritan (Rah-Veer) ecosystem by enabling immediate hospital coordination.
- Enhances digital governance in healthcare and road safety through integrated platforms.

Central Bank Digital Currency (CBDC)-based Public Distribution System (PDS)

Context:

The Union Home Minister launched India's first Central Bank Digital Currency (CBDC)-based Public Distribution System (PDS) in Gandhinagar, Gujarat.

About Central Bank Digital Currency (CBDC)-based Public Distribution System (PDS):

What it is?

- The CBDC-based PDS is a digitally enabled ration distribution system that integrates Central Bank Digital Currency into the Public Distribution System to ensure secure and transparent food grain delivery.

Organisations Involved:

- Ministry of Consumer Affairs, Food and Public Distribution – Nodal ministry overseeing PDS reforms and implementation.
- Reserve Bank of India (RBI) – Issuer of the Central Bank Digital Currency (Digital Rupee).

Aim:

- To eliminate corruption and leakages in ration distribution.
- To operationalise the vision of "Minimum Government, Maximum Governance" in welfare delivery.
- To ensure secure, efficient, and transparent access to subsidised food grains.

Key Features:

- Launched in Gandhinagar: The system has been started in Gandhinagar, Gujarat as the first implementation.
- Linked with Digital India: The ration distribution process is integrated with the broader Digital India framework.
- Use of CBDC in Transactions: The Central Bank Digital Currency is used within the ration distribution mechanism.
- Annapurna Machine for Distribution: An automated machine dispenses 25 kg of food grains in 35 seconds with accuracy.
- Ensures Transparency: Digital processes aim to prevent corruption and safeguard beneficiaries' rights.
- Nationwide Expansion Planned: The system will be gradually rolled out across the country in the next 3–4 years.

Significance:

- Strengthens Digital India in welfare delivery systems.
- Enhances efficiency and transparency in serving nearly 80 crore beneficiaries.
- Reduces fiscal leakages and improves public trust in welfare schemes.

Government Launch SAHI and BODH Initiatives

Context:

The Union Health Minister launched SAHI and BODH initiatives at the India AI Impact Summit 2026 to promote safe and responsible use of AI in healthcare.

About Government Launch SAHI and BODH Initiatives:

What it is?

- The Government of India has introduced two major digital health frameworks:
- SAHI (Strategy for Artificial Intelligence in Healthcare for India)
- BODH (Benchmarking Open Data Platform for Health AI)
- Together, they aim to create a safe, transparent, accountable, and evidence-based AI ecosystem in India's healthcare system.
- Nodal ministry: Ministry of Health and Family Welfare (MoHFW).
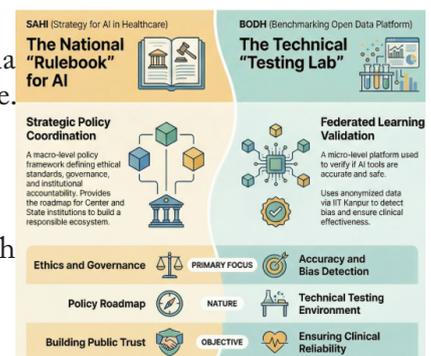
About SAHI Initiative:

What is SAHI?

- SAHI is a national governance framework and roadmap for the responsible adoption of Artificial Intelligence in healthcare.
- It acts as a policy compass guiding ethical, transparent, and people-centric use of AI technologies in the health sector.

Aim of SAHI:

- Promote responsible AI in healthcare: Ensure ethical, transparent, and accountable deployment of AI systems across the health sector.
- Align innovation with public health goals: Integrate AI tools in a way that safeguards data privacy and supports national healthcare priorities.

Key Features of SAHI:

- Governance Framework: Establishes clear policy guidelines for adoption and regulation of AI at both Union and State levels to ensure uniform standards.
- Ethical AI Standards: Mandates consent-based data use, transparency in algorithms, and accountability mechanisms to prevent misuse or bias.
- Interoperability Focus: Ensures AI solutions integrate seamlessly with India's existing digital health infrastructure like ABDM platforms.
- Multi-Stakeholder Collaboration: Facilitates cooperation among government bodies, academic institutions, startups, and industry to foster responsible innovation.
- Policy Roadmap: Provides a long-term strategic direction for scaling AI in healthcare while maintaining safety and public trust.

About BODH Initiative:

What is BODH?

- BODH is a national benchmarking platform designed to evaluate and validate AI solutions in healthcare before large-scale deployment.
- It has been developed by IIT Kanpur in collaboration with the National Health Authority.

Aim of BODH:

- Ensure safe and reliable AI deployment: Systematically test health AI tools for accuracy, safety, and clinical robustness before large-scale use.
- Promote unbiased and scalable innovation: Use real-world anonymized datasets to reduce bias and enhance generalizability across populations.

Key Features of BODH:

- Open Data Benchmarking: Evaluates AI systems using diverse, anonymized real-world health datasets to ensure broader applicability and fairness.
- Performance Validation: Measures accuracy, consistency, and operational reliability of AI tools under practical healthcare conditions.
- Bias and Risk Assessment: Detects algorithmic bias and unintended risks to prevent inequitable outcomes before deployment.
- Clinical Relevance Testing: Verifies that AI solutions align with medical standards and address real public health
- Standardized Evaluation Framework: Establishes national benchmarking norms to create uniform quality standards for health AI systems.

AI-Preneurs of India

Context:

The Atal Innovation Mission (AIM) under NITI Aayog launched AI-Preneurs of India at the India AI Impact Summit 2026.

About AI-Preneurs of India:

What is AI-Preneurs of India?

- AI-Preneurs of India is a flagship coffee table book that documents the journeys of 45 pioneering AI startups solving real-world problems.
- It is the 7th edition of AIM's Innovations For You series and showcases India's growing deep-tech and AI startup ecosystem.

Aim of the Initiative:

- Showcase purpose-driven AI innovation: Highlight startups building AI solutions aligned with national development goals and real societal needs.
- Position India as a responsible global AI contributor: Promote inclusive, ethical, and impact-oriented AI entrepreneurship on the global stage.

Key Features:

- Founder-First Storytelling: Captures the journeys, challenges, and motivations of entrepreneurs, moving beyond pure technological narratives.
- Sectoral Diversity: Features AI applications across 30+ sectors, reflecting the breadth of India's innovation landscape.
- Nationwide Representation: Showcases startups nurtured through Atal Incubation Centres across multiple states, beyond metro hubs.
- Purpose-Led Innovation: Emphasizes AI solutions solving real-world issues in healthcare, sustainability, education, and governance.
- Policy-Ecosystem Linkage: Demonstrates synergy between public incubation platforms and private AI innovators.

Significance:

- Advances AI for social good: Reinforces India's commitment to using AI as a tool for inclusive development.
- Strengthens innovation infrastructure credibility: Highlights the role of AIM in building a robust, mission-driven startup ecosystem.

New Delhi Declaration – AI Impact Summit 2026

Context:

The AI Impact Summit concluded in New Delhi with 89 countries and international organizations endorsing the New Delhi Declaration.

- This landmark agreement establishes a global framework for "AI for All," focusing on equitable access, ethical governance, and social empowerment.

About New Delhi Declaration – AI Impact Summit 2026:

What it is?

- The New Delhi Declaration is a comprehensive, multi-nation consensus document aimed at governing the development and deployment of Artificial Intelligence.
- Grounded in the philosophy of "Sarvajan Hitaya, Sarvajan Sukhaya" (Welfare for all, Happiness for all), it serves as a non-binding roadmap for international AI cooperation.

Aim:

- The declaration seeks to bridge the AI Divide by ensuring that foundational AI resources, such as computing power and data, are not concentrated in a few nations but are democratized for global economic growth and social good.

Key Features of the Declaration:

- Seven Pillars (Chakras) Framework: Built around seven pillars including democratizing AI resources, secure AI, human capital development, AI for science, and resilient AI systems.
- Global Collaborative Platforms: Launch of initiatives like Global AI Impact Commons, Trusted AI Commons, and AI for Social Empowerment Platform to enable shared learning and innovation.

1.   Global AI Impact Commons

- A voluntary global platform designed to help countries share and replicate successful AI solutions.
- It enables adoption and scaling of proven AI use-cases across regions to maximize development impact.

2.   Trusted AI Commons

- A voluntary, non-binding collaborative repository that brings together AI tools, benchmarks, technical resources, and best practices.
- It helps stakeholders build secure and trustworthy AI systems adaptable to different national contexts.

3.   International Network of AI for Science Institutions

- A voluntary collaborative network connecting scientific institutions worldwide to pool AI research infrastructure and expertise.
- Its objective is to accelerate scientific innovation through AI-enabled research collaboration across countries.
- Democratic Diffusion of AI Charter: Promotes affordable access to foundational AI resources and supports locally relevant innovation ecosystems.
- Focus on Trusted & Secure AI: Encourages voluntary technical standards, benchmarks, and best practices for safe AI deployment.
- Human Capital & Reskilling: Introduces AI workforce development playbook and guiding principles for reskilling in an AI-driven economy.
- Energy-efficient & Resilient AI: Emphasizes sustainable AI infrastructure and efficient systems to reduce energy and resource pressures.
- Multistakeholder & Sovereignty-based Approach: Balances global cooperation with respect for national laws and policy frameworks.

Significance:

- Global Governance Milestone: Represents one of the largest multilateral consensuses on AI, with 89 countries aligning on shared AI principles.
- India's Leadership in AI Diplomacy: Positions India as a key voice shaping inclusive AI governance through the philosophy of Sarvajan Hitaya, Sarvajan Sukhaya.

Agni-3 Intermediate-Range Ballistic Missile

Context:

India successfully test-fired the Intermediate-Range Ballistic Missile (IRBM) Agni-3 from the Integrated Test Range, Chandipur, Odisha validating its operational readiness.

About Agni-3 Intermediate-Range Ballistic Missile:

What it is?

- Agni-3 is an Intermediate-Range Ballistic Missile (IRBM) capable of delivering strategic payloads to targets up to 3,000 km. It forms a crucial leg of India's land-based nuclear deterrent under the Agni missile series.

Developed by

- Defence Research and Development Organisation (DRDO)
- Operationally deployed under the Strategic Forces Command

Aim

- To ensure credible minimum deterrence against long-range adversarial threats.
- To provide India with a reliable second-strike capability.
- To strengthen strategic depth beyond short- and medium-range missile systems.

Key features

- Range: ~3,000 km.
- Type: Intermediate-Range Ballistic Missile.
- Launch platform: Road-mobile launcher (canisterised variants tested earlier).
- Payload capability: Conventional or nuclear warhead.
- Guidance: Advanced inertial navigation with high accuracy.
- Propulsion: Two-stage solid-fuel missile.
- Operational validation: All technical and operational parameters successfully validated in the 2026 test.

Significance

- Strategic deterrence: Enhances India's ability to deter threats across extended regional theatres.
- Force readiness: Confirms reliability of India's nuclear delivery systems under operational command.
- Missile spectrum coverage: Complements Agni-1, Agni-2, Agni-4 and Agni-5, covering the 700–5,000 km range band.

CCentral Sector Scheme of Formation and Promotion of 10,000 Farmer Producer Organizations (FPOs)

Context:

The Government of India has completed the formation of 10,000 Farmer Producer Organisations (FPOs) under a central sector scheme, with 21.96 lakh women farmers.

About Central Sector Scheme of Formation and Promotion of 10,000 Farmer Producer Organizations (FPOs):

What it is?

- A central sector scheme to form and nurture 10,000 new FPOs across India, enabling small and marginal farmers to collectivise production, processing, and marketing for better incomes and market power.

Launched in: 29 February 2020

Implementing Agencies (IAs):

- Small Farmers' Agribusiness Consortium (SFAC)
- National Bank for Agriculture and Rural Development (NABARD)
- National Cooperative Development Corporation (NCDC)
- National Agricultural Cooperative Marketing Federation of India (NAFED)

Aim:

- To build a sustainable, income-oriented farming ecosystem by strengthening farmer collectives, improving access to inputs, credit, technology, value chains, and markets, and enhancing farmers' bargaining power.

Key features:

- Cluster & commodity approach: Produce-cluster-based formation aligned with One District One Product (ODOP).

Financial support:

- Up to 18 lakh/FPO (3 years) for handholding
- Matching equity grant up to 15 lakh/FPO (2,000 per farmer)
- Credit guarantee up to 2 crore project loan per FPO
- Market linkage: NAFED-led forward linkages and value-chain integration.
- Capacity building: Structured training via BIRD (Lucknow) and LINAC (Gurugram).
- Inclusion focus: Strong participation of women farmers and coverage of aspirational districts.

Significance:

- Empowers small & marginal farmers (≈86%) through economies of scale.
- Higher incomes & lower costs: Evidence shows ~22% higher price realisation and ~31% lower marketing costs via FPO channels.

75th Anniversary of Employees' State Insurance Corporation (ESIC)

Context:

The Employees' State Insurance Corporation (ESIC) has commenced its 75th Foundation Year celebrations, marking seven decades of social security service to workers in India.

कर्मचारी राज्य बीमा निगम
Employees' State Insurance Corporation
श्रम एवं रोजगार मंत्रालय, भारत सरकार
Ministry of Labour & Employment, Government of India

About 75th Anniversary of Employees' State Insurance Corporation (ESIC):

What it is?

- ESIC is a statutory social security body under the Ministry of Labour & Employment, Government of India.
- It manages the ESI Scheme, which provides comprehensive medical care and financial protection to employees against sickness, maternity, disablement, and death due to employment injury.

Established In:

- Act: The Employees' State Insurance Act was promulgated in 1948.
- Inauguration: The scheme was officially launched on February 24, 1952 (celebrated annually as ESIC Foundation Day).

History:

- Genesis: The first document on social insurance in India was the Report on Health Insurance (1944) by Prof. B.P. Adarkar, who was known as Chhota Beveridge.
- Launch: Inaugurated in Kanpur and Delhi by then PM Pandit Jawaharlal Nehru, who was the first honorary insured person of the scheme.
- Leadership: Dr. C.L. Katial served as the first Director General of ESIC.

Key Functions:

- Medical Benefit: Provides full medical care (from primary to tertiary) to insured persons and their families.
- Sickness & Maternity Benefit: Cash compensation for loss of wages during periods of certified sickness or pregnancy.
- Disablement Benefit: Monthly pension for permanent disability arising out of employment injury.
- Dependents' Benefit: Financial support to the dependents of an insured person who dies due to employment-related injury or occupational disease.
- Preventive Care: Newly introduced annual health check-ups for workers aged 40 years and above under the new Labour Codes.

Significance:

- It acts as a cornerstone of India's social protection architecture, preventing poverty by protecting the family's breadwinners.
- Through MoUs with NHA (convergence with Ayushman Bharat) and NABL (quality standards), it is modernizing healthcare delivery.

Double Taxation Avoidance Convention (DTAC)

Context:

India and France have signed an Amending Protocol to update their 1992 Double Taxation Avoidance Convention (DTAC) to align with international tax standards.

About Double Taxation Avoidance Convention (DTAC):

What it is?

- A Double Taxation Avoidance Convention (also known as a DTAA or Tax Treaty) is a bilateral agreement between two countries.
- It is designed to ensure that the same income is not taxed in both the country where it is earned (the Source Country) and the country where the taxpayer resides (the Resident Country).

How it Works?

- The convention allocates taxing rights between the two contracting nations based on the type of income. It typically utilizes two main methods to provide relief:
- Exemption Method: The income is taxed in only one country and is entirely exempt in the other.
- Tax Credit Method: The income is taxed in both countries, but the resident country allows the taxpayer to claim a credit for the taxes already paid in the source country.

Key Features of the Amended India-France DTAC:

- Capital Gains Taxation: Provides full taxing rights to the country where a company is resident (Source State) for gains arising from the sale of its shares.
- Revised Dividend Rates: Replaces the flat 10% rate with a split rate: 5% for those holding at least 10% of the company's capital and 15% for all other cases.
- MFN Clause Deletion: Formally removes the Most-Favoured-Nation (MFN) clause, ending interpretational disputes and ensuring treaty benefits are limited to the specific agreed terms.
- BEPS Integration: Incorporates provisions from the Base Erosion and Profit Shifting (BEPS) Multilateral Instrument (MLI) to prevent tax avoidance by multinational corporations.
- Enhanced Cooperation: Updates provisions for the Exchange of Information and introduces a new article on Assistance in Collection of Taxes to combat fiscal evasion.
- Service Permanent Establishment (PE): Expands the scope of Permanent Establishment by adding Service PE and aligns the definition of Fees for Technical Services with international models.

Significance:

- By providing a clear and predictable tax regime, it makes India and France more attractive destinations for foreign direct investment (FDI).
- The removal of the MFN clause and clarification of taxing rights on shares provides much-needed legal certainty for large portfolio investors and global corporations.
- The updated standards for information exchange help both governments track and prevent illegal financial activities and profit shifting.

MSME Ministry Upgrades NSIC to Schedule 'A' Category CPSE

Context:

The Ministry of MSME has upgraded the National Small Industries Corporation (NSIC) from a Schedule 'B' to a Schedule 'A' Central Public Sector Enterprise (CPSE), recognizing its consistent Excellent performance.

About MSME Ministry Upgrades NSIC to Schedule 'A' Category CPSE:

What are Category CPSE?

- Central Public Sector Enterprises (CPSEs) are companies where the direct holding of the Central Government is 51% or more.
- To streamline management and salary structures, the Department of Public Enterprises (DPE) classifies these entities into four distinct schedules: A, B, C, and D.

Governing Act & Authority:

- Governing Act: Most CPSEs are incorporated under the Companies Act, 2013 (or previous versions like the 1956 Act) or created as Statutory Corporations through specific Acts of Parliament.
- Administrative Authority: The Department of Public Enterprises (DPE), under the Ministry of Finance, is the nodal agency for categorization and policy formulation.

History:

- The categorization system was introduced in 1965 following recommendations from the 'Committee on Top Posts.'
- It was designed to create a hierarchy based on the size of operations and strategic importance, primarily to determine the pay scales and seniority of Board-level executives (CMD, Directors).

The Four Categories:

- Schedule A: The highest tier, comprising large-sized enterprises with significant national and strategic importance.
- Schedule B: Mid-sized enterprises.
- Schedule C: Smaller enterprises or those with niche operations.
- Schedule D: The smallest tier, often used for initial categorization of new CPSEs.

Key Features of Categorization:

1. Quantitative Parameters: Evaluation is based on the last five years of performance in terms of investment, capital employed, net sales, profit before tax, and number of employees.
2. Qualitative Factors: Factors include national importance, complexity of problems, level of technology, and prospects for expansion.
3. Governance Structure: Higher schedules (like 'A') typically allow for a more robust board structure and higher-ranking executive positions.
4. Salary Links: The schedule directly determines the Industrial Dearness Allowance (IDA) pay scales for the Chairman, Managing Director, and other Board members.

Significance of the Upgrade:

- Moving to Schedule 'A' grants the organization greater financial and operational powers, reducing the need for frequent ministerial approvals for large projects.
- reflects the entity's comparative advantage and potential to become a global player.

LCH Prachand

Context:

President Droupadi Murmu recently undertook a 25-minute historic sortie in the indigenous LCH Prachand at Air Force Station Jaisalmer, marking her third major flight in a combat aircraft to witness India's defense prowess.

About LCH Prachand:

What it is?

- Prachand is India's first indigenously designed and developed dedicated combat helicopter, built specifically for offensive roles in high-altitude and battlefield environments.
- It is a multi-role light attack helicopter capable of air-to-air and air-to-ground missions, including anti-armour and counter-insurgency operations.

Developed by:

- Designed and manufactured by Hindustan Aeronautics Limited (HAL) under the Light Combat Helicopter (LCH) programme.

Aim:

- The primary objective of the Prachand project is to provide a high-altitude combat platform capable of operating in the unique terrain of the Himalayas (Siachen Glacier and Leh), where heavier attack helicopters often struggle due to thin air.

Key Features:

- Performance: It can operate at altitudes exceeding 5,000 meters (16,400 ft), the highest for any attack helicopter in the world.
- Speed & Range: Boasts a maximum speed of 268 kmph and a combat range of 550 km.
- Stealth & Survivability: Features a low Radar Cross Section (RCS), crashworthy structure, and an Infrared (IR) Suppressor to reduce its heat signature.
- Weaponry: Equipped with a 20mm turret gun, 70mm rockets, Air-to-Air missiles (ATAM), and Anti-Tank Guided Missiles (ATGM).
- Advanced Tech: Includes a modern glass cockpit, Helmet-Mounted Display (HMD), and an Electronic Warfare (EW) suite.

Significance:

- With a recent contract for 156 units worth 62,700 crore, it cements India's Atmanirbhar Bharat (Self-Reliant India) initiative in defense.
- It is the only attack helicopter in the world that can land and take off at altitudes of 5,000 meters with a considerable weapon load, providing a massive edge in border conflicts.

Industrial Corridors of India

Context:

The Union Budget 2026-27 has accelerated India's infrastructure vision by announcing the Integrated East Coast Industrial Corridor with a key node at Durgapur and allocating 3,000 crore to the NICDIT for ongoing projects.

The Strategic Components Behind Industrial Corridors

Unified Infrastructure Systems | Ready-to-Use Industrial Spaces | Skilled Workforce Development

Dedicated Industry Zones | Collaborative Development Approach | Workplace Clusters for Efficiency

Source: Ministry of Commerce and Industry

About Industrial Corridors of India:

What it is?

- Industrial corridors are linear development zones designed as planned economic belts. They integrate world-class infrastructure—including high-speed rail, expressways, ports, and smart cities—to connect major economic hubs.
- These corridors aim to lower logistics costs and foster an environment where industries can operate with plug-and-play facilities and walk-to-work ecosystems.

Data & Stats on Industrial Corridors:

- Network Scope: India is developing 11 Industrial Corridors under the National Industrial Corridor Development Programme (NICDP).
- Current Progress: 4 projects are completed (Phase-I cities) and 4 projects are nearing completion.
- Investment: Phase-I projects alone have attracted 2.02 lakh crore in investments across sectors like EVs, renewables, and pharma.
- New Projects: 12 additional projects were recently approved with a total cost of 28,602 crore, aiming to create nearly 1 million direct jobs.
- Budget 2026-27: 3,000 crore allocated to NICDIT to accelerate implementation.

Major Industrial Corridors of India:

1. Delhi–Mumbai Industrial Corridor (DMIC)

- Flagship Status: India's premier corridor, featuring world-class Smart Cities like Dholera (India's first semiconductor city) and Shendra-Bidkin.
- Logistics Power: Anchored by the Western Dedicated Freight Corridor (WDFC), ensuring rapid transit between the political and financial capitals.
- Strategic Verticals: Leading the charge in Electric Vehicles (EVs), high-end electronics, and renewable energy manufacturing.

2. Chennai–Bengaluru Industrial Corridor (CBIC)

- Manufacturing Powerhouse: Links the high-tech ecosystem of Bengaluru with the Detroit of Asia (Chennai).
- Key Nodes: Major developments at Tumakuru (Karnataka) and Krishnapatnam (Andhra Pradesh) are nearing completion.
- Industrial Focus: Dominates in automobiles, precision engineering, and consumer electronics.

3. Amritsar–Kolkata Industrial Corridor (AKIC)

- Eastern Link: Aligned with the Eastern Dedicated Freight Corridor (EDFC), spanning the vast Indo-Gangetic plains.
- Cluster Model: Utilizes Integrated Manufacturing Clusters (IMCs) to revitalize the industrial heartland of North and East India.
- Sector Focus: Primarily targets agro-processing, heavy engineering, and steel-based manufacturing.

4. Vizag–Chennai Industrial Corridor (VCIC)

- Maritime Connectivity: India's first coastal corridor, acting as a critical component of the East Coast Economic Corridor (ECEC).
- Blue Economy: Prioritizes port-led industrialization, creating a seamless link between manufacturing zones and global shipping routes.
- Core Industries: Strategic focus on petrochemicals, export-oriented textiles, and logistics.

5. **Bengaluru–Mumbai Industrial Corridor (BMIC)**

- Western-Southern Synergy: Bridging the gap between the industrial powerhouses of Maharashtra and the tech-driven Karnataka.
- Regional Growth: Key nodes at Dharwad and Satara act as magnets for high-tech manufacturing.
- Economic Goal: Aims to decongest existing metros by creating self-sustaining industrial townships along the route.

6. **Extension of CBIC to Kochi via Coimbatore (ECKC)**

- Peninsular Connectivity: Extends the reach of southern industrial belts to the Kochi Port.
- Key Nodes: Significant projects in Palakkad (Kerala) and Dharmapuri-Salem (Tamil Nadu).
- Traditional Strengths: Strengthens global value chains in textiles, food processing, and specialized engineering.

7. **Hyderabad–Nagpur Industrial Corridor (HNIC)**

- Central Expansion: Aims to unlock the industrial potential of Central India by connecting two major urban centers.
- Anchor Project: The Zaheerabad node in Telangana is a focal point for massive industrial investment.
- Growth Drivers: Focused on the automotive supply chain and heavy engineering equipment.

8. **Hyderabad–Warangal Industrial Corridor (HWIC)**

- State-Led Growth: A specialized initiative to decentralize industry within Telangana.
- Diversification: Encourages a shift from traditional sectors toward diverse, high-value manufacturing clusters.
- Regional Impact: Designed to boost rural economies by providing high-quality industrial infrastructure in tier-II regions.

9. **Hyderabad–Bengaluru Industrial Corridor (HBIC)**

- Tech Corridor: Connects India's two largest technology hubs, facilitating a Knowledge Economy corridor.
- Specialized Node: The Orvakal industrial area is being developed as a premier destination for high-tech sectors.
- Strategic Sectors: High emphasis on Aerospace, Defence, and advanced semiconductor assembly.

10. **Odisha Economic Corridor (OEC)**

- Resource and Port Model: Capitalizes on Odisha's immense mineral wealth and its strategic ports at Paradip and Dhamra.
- Maritime Integration: Strengthens India's presence in the Bay of Bengal maritime trade route.
- Primary Industries: Heavily oriented toward steel, aluminum, and downstream mineral-based industries.

11. **Delhi–Nagpur Industrial Corridor (DNIC)**

- Logistics Gateway: A planned corridor aimed at improving North-South connectivity through the center of India.
- Balanced Development: Explicitly designed to reduce regional development imbalances by industrializing the hinterlands.
- Future Vision: Focuses on becoming a hub for national-level logistics and warehousing due to its central location.

Significance:

- Global Competitiveness: Provides plug-and-play infrastructure (ready-to-use land and utilities) that allows businesses to start operations immediately, making India a global manufacturing destination.
- Logistics Efficiency: By integrating with the PM GatiShakti framework and Dedicated Freight Corridors (DFCs), these zones drastically reduce the time and cost of moving goods to ports.
- Sustainable Urbanization: Promotes Low-Carbon Cities (LCCs) with transit-oriented development, renewable energy integration, and vast green spaces.
- Socio-Economic Growth: Acts as a catalyst for regional development, providing high-quality employment in traditionally less-industrialized hinterlands.

Conclusion:

The development of 11 Industrial Corridors marks a shift from isolated industrial zones to integrated, multi-modal manufacturing ecosystems. With new budget support and the Durgapur node, India is strengthening infrastructure to compete globally. These corridors will be key drivers of Viksit Bharat @ 2047, boosting growth and exports.

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Significance of the Upgrade:

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- reflects the entity's comparative advantage and potential to become a global player.

Consumer Price Index (CPI) Base 2024=100

Context:

MoSPI has released the first CPI (Base 2024=100) press note on 12 Feb 2026, reporting Jan 2026 retail inflation at 2.75%.

About Consumer Price Index (CPI) Base 2024=100:

What it is?

- Consumer Price Index (CPI) measures the change in retail prices of a fixed basket of goods and services consumed by households, and is India's headline retail inflation indicator (YoY % change in CPI).
- Published by: Ministry of Statistics & Programme Implementation (MoSPI) through NSO (National Statistical Office). Price collection is done by the Field Operations Division (NSO).

Index overhaul

The 2024-base CPI basket includes 358 items vs. earlier 299, with goods covered rising from 259 to 308 and services from 40 to 50

- Number of rural markets covered rose from 1,181 to 1,465, urban from 1,114 to 1,395, with 12 online platforms added
- The weightage assigned to the food and beverages category is now 36.75% from earlier 45.86%
- The CPI framework has been expanded from 6 broad groups to 12, offering more granular tracking of goods and services

Base year:

- New base: 2024 = 100
- Earlier base: 2012 = 100
- Weights source: Household Consumption Expenditure Survey (HCES) 2023–24.

Methods used:

- Jevons index (at item level): For each item, MoSPI compares prices in many markets and takes an average based on percentage change (ratio), so one very high/low price doesn't distort too much.
- Young / Modified Laspeyres (for bigger groups): After finding price changes for many items, it adds them up using fixed spending weights (how much households typically spend on each item). So, items you spend more on (like food/rent) influence CPI more than items you rarely buy.
- Combined CPI (India total): India's final CPI is made by mixing Rural CPI and Urban CPI in proportion to their share in total consumption (weights). So if rural consumption weight is higher, rural CPI influences the all-India CPI more (and vice-versa).

Key features of CPI 2024 series:

- New international system (12 categories instead of 6): Earlier, prices were grouped into 6 big categories. Now they are divided into 12 clearer categories, like health, transport, education, communication, etc.
- More items included (358 instead of 299): The price basket now covers more products and services people actually use today, so inflation reflects real life better.
- More focus on services: Earlier, services (like education, transport, OTT, healthcare) were fewer. Now more services are included, because people spend more on services today than before.
- Detailed data every month: Now inflation data is available not just for India overall, but also for each state, and separately for rural and urban areas, every month.
- Modern price collection (using tablets): Earlier, data was written on paper. Now officers use tablets (digital devices) to collect prices.
- Online prices included: Since many people shop online now, prices from online platforms (like OTT subscriptions or flight tickets) are also included.
- Official government data used for some services: For things like rail fares, postal charges, petrol, diesel, LPG, official government price data is used directly to ensure accuracy.
- The new series introduces rural house rent for the first time, significantly improving the coverage of rural housing consumption.

Chapter-
8

INTERNATIONAL RELATION

Project Vault

Context:

The United States has launched Project Vault, a $12 billion critical minerals stockpiling initiative, announced by Donald Trump to protect American industries from global supply disruptions.

About Project Vault:

What is Project Vault?

- Project Vault is a public–private stockpiling programme designed to purchase, store, and manage critical minerals and rare earth elements required for strategic civilian and defence industries in the United States, similar in concept to the Strategic Petroleum Reserve.

Launched by:

- US Government, announced by Donald Trump
- Funded through a mix of private capital and the US Export–Import Bank

Aim:

- To secure uninterrupted access to critical minerals during global supply shocks.
- To reduce strategic dependence on China, which dominates mineral processing.
- To strengthen national security, advanced manufacturing, and clean energy supply chains.

Key features:

- Minerals covered: Rare earths and critical minerals such as cobalt, gallium, and other strategic metals
- Advance purchase commitments: Companies commit upfront to buy minerals later at fixed inventory prices.

Stockpile access model:

- Firms can withdraw minerals if they replace equivalent quantities
- Full access allowed during major supply disruptions
- Price stabilisation mechanism: Mandatory repurchase at the same price to reduce market volatility.
- Private-sector execution: Commodity traders (e.g., Mercuria, Traxys) handle sourcing and storage.
- Industry participation: Companies like GM, Boeing, Google, Stellantis are already onboard.

Significance:

- Strategic autonomy: Reduces US vulnerability to geopolitical coercion and export controls.
- Industrial resilience: Protects automotive, aerospace, defence, EV, and tech sectors.
- National security: Ensures availability of minerals critical for jet engines, batteries, missiles, and electronics.
- Market stability: Dampens extreme price swings in rare earth markets.

India–Malaysia IMPACT Framework

Context:

Prime Minister of India during his visit to Malaysia, articulated IMPACT as the guiding framework of India–Malaysia relations while addressing the Indian diaspora in Kuala Lumpur.

About India–Malaysia IMPACT Framework:

What it is?

- IMPACT stands for India–Malaysia Partnership for Advancing Collective Transformation, a strategic vision articulated to deepen bilateral cooperation by aligning economic growth, digital integration, cultural ties, and people-centric development.

Aim:

- To accelerate the pace and scale of bilateral cooperation.
- To deliver tangible benefits for citizens of both countries.
- To position India–Malaysia ties as a driver of Asia's collective growth.

Key Features:

- Economic & Technology Cooperation: Over 100 Indian IT companies operate in Malaysia, generating employment and strengthening digital ecosystems.
- Digital Connectivity: Launch of UPI in Malaysia and collaboration through the Malaysia–India Digital Council, enhancing fintech and cross-border digital payments.
- People-to-People & Diaspora Linkages: Strong role of the Indian-origin community (second-largest globally), expansion of OCI eligibility up to 6th generation, scholarships, and cultural institutions like the Thiruvalluvar Chair/Centre.
- Cultural & Civilisational Bonds: Shared maritime heritage of the Indian Ocean, linguistic and cultural links (Tamil, Malay), and historical connections including INA legacy.
- Strategic & Regional Outlook: Partnership aligned with ASEAN centrality, Indo-Pacific stability, and shared commitment to inclusive growth.

Significance:

- Strategic Depth: Elevates India–Malaysia ties beyond transactional engagement to a values-based, future-oriented partnership.
- Digital Diplomacy: Positions India's Digital Public Infrastructure (UPI) as a global public good.

India–France Special Global Strategic Partnership

Context:

French President Emmanuel Macron visited India, to participate in the AI Impact Summit and inaugurate the 2026 India-France Year of Innovation.

- During this visit, both nations elevated their bilateral ties to a "Special Global Strategic Partnership" to guide cooperation until 2047.

About India–France Special Global Strategic Partnership:

What it is?

The "Special Global Strategic Partnership" is a high-level diplomatic upgrade that shifts the relationship from sectoral cooperation to a comprehensive, long-term alliance aimed at global stability. It focuses on:

- Strategic Autonomy: Strengthening the sovereignty and independent decision-making of both nations.
- Global Governance: Acting as a force for global good to address macroeconomic imbalances and climate crises.
- Security & Innovation: Deepening the co-development of advanced technologies (AI, Space, Nuclear) while securing resilient, trusted supply chains.

History of India-France Relations:

- Early Foundations (1947): India established diplomatic relations with France immediately upon independence, sharing a vision of non-alignment and sovereignty.
- Strategic Milestone (1998): France was the first Western power to sign a Strategic Partnership with India and notably did not impose sanctions following India's nuclear tests.
- Nuclear Cooperation (2008): France was the first country to sign a civil nuclear agreement with India after the NSG waiver, highlighting deep trust in high-tech sectors.
- Horizon 2047 Roadmap: Adopted in 2023, this plan charts the course for the next 25 years, coinciding with India's 100th year of independence.
- Recent Reciprocity: The relationship is marked by high-level honors, such as Prime Minister of India being the Guest of Honor at Bastille Day (2023) and President Macron attending India's Republic Day (2024).

Key Agreements under the New Partnership:

1. Year of Innovation 2026: Launching a series of high-impact collaborations in AI, healthcare, and sustainable development across both nations.
2. Defence Industrial Roadmap: Focus on the co-production of fighter jet engines (Safran-HAL) and the procurement of 26 Rafale-Marine jets.
3. Small Modular Reactors (SMRs): A commitment to co-develop SMRs and Advanced Modular Reactors (AMRs) to bolster India's 100 GW nuclear target.
4. Indo-Pacific Synergy: Strengthening the Indo-Pacific Triangular Development Cooperation to support third-country projects in health and digital public infrastructure.
5. AI & Digital Health: Establishing a research centre involving AIIMS New Delhi and the Paris Brain Institute to integrate AI into healthcare.
6. Space Autonomy: Expanding cooperation in human spaceflight, satellite launchers, and space situational awareness through the CNES-ISRO partnership.
7. Migration & Mobility: Introducing visa-free transit for Indian nationals through French airports (6-month pilot) and targeting 30,000 Indian students in France by 2030.

Challenges Associated with the Partnership:

- Divergent Views on Global Conflicts: While both seek peace, their specific approaches to major conflicts can differ based on regional priorities.

E.g. India's nuanced stance on the Ukraine war differs from the more direct Western condemnation, requiring careful diplomatic balancing during joint statements.

- Trade and Regulatory Barriers: Complexities in finalizing broad trade agreements can slow down economic integration.

E.g. Long-standing hurdles in the India-EU FTA negotiations often stem from differing standards on labor, environment, and data privacy.

- Implementation Delays in Nuclear Energy: High-tech projects often face prolonged timelines due to technical and liability issues.

E.g. The Jaitapur Nuclear Power Project has seen decades of discussions without final ground breaking due to civil nuclear liability concerns.

- Technological Protectionism: Sharing sensitive military source codes or high-end engine tech remains a hurdle despite the Make in India push.

E.g. Challenges in the full Transfer of Technology (ToT) for jet engines often require intense high-level political intervention to resolve.

- Rising Regional Instability: Conflict in the Middle East can disrupt planned connectivity projects.

E.g. Security concerns in the Red Sea and surrounding areas pose direct threats to the viability of the India-Middle East-Europe Economic Corridor (IMEC).

Way Ahead:

- Operationalizing IMEC: Prioritize the first Ministerial Meeting in 2026 to turn the India-Middle East-Europe corridor into a physical reality.
- Democratizing AI: Work together to bridge the global AI divide, ensuring developing nations have access to secure and trustworthy AI tools.
- UNSC Reforms: Intensify joint lobbying for the reform of the UN Security Council, with France actively backing India's permanent membership.
- Green Energy Transition: Leverage the International Solar Alliance (ISA) to fund and train personnel in third-world countries for climate resilience.
- Deepening People-to-People Ties: Use the International Classes initiative to make French education more accessible to Indian students from diverse backgrounds.

Conclusion:

The elevation to a Special Global Strategic Partnership marks a transformative shift from buyer-seller dynamics to a collaborative alliance for global security and innovation. By aligning the Horizon 2047 roadmap with shared democratic values, India and France are positioning themselves as the twin pillars of a stable, multipolar world.

G7 Summit 2026

Context:

French President Emmanuel Macron has invited Prime Minister of India to attend the 52nd G7 Summit (2026) in France.

About G7 Summit 2026:

What is it?

- The G7 Summit 2026 is the annual meeting of leaders of the world's seven advanced democracies to deliberate on global economic stability, security, climate change, and geopolitical issues.

Host:

- Host Country: France
- Venue: Évian, France

About the G7:

What is the G7?

- The Group of Seven (G7) is an informal forum of leading industrialized democracies that meet annually to coordinate responses to global economic and political challenges.

Members of G7: United States, United Kingdom, France, Germany, Italy, Japan, and Canada.

- The European Union (EU) participates as a non-enumerated member represented by the Presidents of the European Council and European Commission.

Origin and History:

- Established: 1975 (Rambouillet Summit, France).
- The first summit was convened by France to bring together major industrial economies.
- 1973 Oil Crisis and Financial Instability: It emerged as a response to global recession, inflation, and energy shocks following the oil embargo, requiring collective economic stabilisation.
- G6 to G7 (1976): Canada's inclusion transformed the original G6 into the G7, strengthening North American representation and economic coordination.
- G8 Phase (1997–2014): Russia joined post-Cold War to encourage integration with Western economies, but was suspended after the Crimea annexation in 2014.
- Expansion of Agenda: Over time, the G7 evolved from a financial coordination forum into a platform addressing climate change, security, development, and global governance.

Key Functions:

- Macroeconomic Coordination: Aligns fiscal and monetary policies among major economies to manage inflation, debt crises, and financial instability.
- Global Governance Influence: Shapes norms on trade, development finance, debt restructuring, and multilateral institutional reforms.
- Security Dialogue: Provides a platform to coordinate responses to geopolitical crises, sanctions regimes, and global security challenges.
- Climate Leadership: Advances climate mitigation targets, clean energy transitions, and global environmental commitments.
- Ministerial Tracks: Specialized ministerial meetings prepare detailed policy inputs for leaders' communiqués across sectors like finance, health, and digital governance.

Significance:

- Represents Nearly 40% of Global GDP: The collective economic weight of G7 nations gives it significant influence over global markets and financial systems.
- Shapes International Norms and Crisis Response: Its communiqués and coordinated actions often guide global responses to economic shocks, pandemics, and geopolitical conflicts.

The International Energy Agency (IEA)

Context:

The International Energy Agency (IEA) ministerial meeting in Paris signalled that India's bid for full membership has entered its final stages.

About The International Energy Agency (IEA):

What is the IEA?

- The International Energy Agency (IEA) is an intergovernmental organisation that works to ensure global energy security, reliable energy data, and sustainable energy policies.
- It acts as a major global platform for energy analysis, policy guidance, and emergency energy cooperation.

Aim:

- To help industrialized nations coordinate a collective response to major oil supply disruptions and ensure energy security.

Membership Structure:

- Full Members: Currently 33 countries (Colombia was inducted as the 33rd member in February 2026).
- Historically, a country must be a member of the OECD (Organisation for Economic Co-operation and Development) to join.
- Association Countries: 13 countries, including India, China, Brazil, and South Africa. These countries participate in discussions but lack decision-making rights.

Key Functions:

- Energy Security: Maintains a Strategic Petroleum Reserve mechanism where members must hold oil stocks equivalent to at least 90 days of net imports.
- Data & Analysis: Publishes the World Energy Outlook and the Monthly Oil Market Report, considered the gold standard for energy statistics.
- Energy Transition: Leads global efforts on climate change, renewables, and decarbonization through the Net Zero by 2050 roadmap.
- Critical Minerals: Recently launched a program to secure supply chains for minerals (lithium, cobalt) essential for clean energy.

India and the IEA:

- Timeline: India became an Associate Member in 2017 and signed a Strategic Partnership in 2021.
- The October 2023 Request: India formally applied for full membership to have a seat at the table in global energy decision-making.

The OECD Hurdle:

- India is not a member of the OECD and has no immediate plans to join.
- For India to become a full member, the IEA must amend its 1974 founding charter—a move the IEA leadership and major members now support to reflect India's status as the world's 3rd largest energy consumer.

India–GCC Free Trade Agreement (FTA)

Context:

India and the Gulf Cooperation Council (GCC) signed a Joint Statement formally launching negotiations for the India–GCC Free Trade Agreement (FTA).

About India–GCC Free Trade Agreement (FTA):

What it is?

- The India–GCC FTA is a proposed comprehensive trade agreement between India and the Gulf Cooperation Council (Saudi Arabia, UAE, Qatar, Kuwait, Oman, and Bahrain).
- It aims to establish a structured framework to enhance bilateral trade, investment flows, and economic integration through reduced trade barriers and improved market access.

Key Features:

- Formal Launch of Negotiations: Joint Statement signed in February 2026, marking the beginning of structured negotiations for a broad-based trade pact.
- Comprehensive Economic Coverage: Expected to include trade in goods, services, investment facilitation, and regulatory cooperation for smoother business operations.
- Major Trade Partnership: GCC is India's largest trading partner bloc, with bilateral trade of USD 178.56 billion (FY 2024–25), accounting for over 15% of India's global trade.

- Sectoral Complementarity: India exports engineering goods, textiles, rice, gems & jewellery, while importing crude oil, LNG, petrochemicals and precious metals from GCC nations.
- Investment and Diaspora Linkages: GCC nations are major investors in India (over USD 31 billion FDI) and host nearly 10 million Indians, strengthening economic and social ties.

India-Israel Bilateral Relations

Context:

Prime Minister of India conducted a historic state visit to Israel, where both nations elevated their ties to a Special Strategic Partnership for Peace, Innovation, and Prosperity.

About India-Israel Bilateral Relations:

What it is?

- India and Israel share a multi-dimensional relationship characterized by deep security cooperation, a knowledge-hub partnership in technology, and a shared vision for regional stability. The relationship has evolved from hesitant diplomatic beginnings to a robust, open alliance based on mutual strategic interests and civilizational ties.

Data & Stats:

- Agriculture: Over 1 million Indian farmers have been trained across 35 operational Indo-Israel Centres of Excellence.
- Research Funding: Joint research contributions increased from million to million each for the India-Israel Joint Research Calls (IIJRC).
- Labor Mobility: A goal to deploy 50,000 additional Indian workers in Israel over the next five years in sectors like construction and nursing.
- Trade Infrastructure: Negotiations for a Free Trade Agreement (FTA) have been fast-tracked following the 2025 Bilateral Investment Agreement.
- Start-up Ecosystem: The I4F fund has become a primary driver for industrial R&D, facilitating dozens of high-tech joint ventures.

History of Relations:

- 1950: India officially recognized the State of Israel but maintained limited engagement due to its Cold War-era Non-Aligned stance.
- 1992: Full diplomatic relations were established with the opening of embassies, marking a shift toward pragmatic foreign policy.
- Kargil War (1999): Israel provided critical military assistance and intelligence to India, cementing a silent but deep security bond.
- 2017: PM Modi became the first Indian PM to visit Israel, de-hyphenating India's relations with Israel and Palestine.
- 2022-23: Formation of the I2U2 Group (India, Israel, UAE, USA), shifting the focus toward regional economic integration.

Recent Bilateral Meeting Outcomes:

1. ### Strategic & Institutional Elevation

- A New Status: Ties elevated to a 'Special Strategic Partnership for Peace, Innovation & Prosperity', signaling a long-term commitment beyond security.
- Institutional Framework: Established the India-Israel Academic Cooperation Forum (I2I Forum) and the India-Israel Parliamentary Friendship Group to ensure cooperation across government, academia, and legislature.

2.　Frontier Technology & AI Leadership

- CET Initiative: A new Critical and Emerging Technology (CET) initiative, led by both National Security Advisors (NSAs), will now govern niche sectors like semiconductors and quantum computing.
- AI Integration: Signed a landmark MoU on Artificial Intelligence, focusing on both industrial application and a specific framework for Advancing Education through AI.
- Horizon Scanning: Launched a Strategic Foresight Mechanism using AI and big data to predict global trends in economy and technology.

3.　Comprehensive Cybersecurity & Space

- Centre of Excellence: Signed a Letter of Intent (LoI) to establish an Indo-Israel Centre of Excellence in Cybersecurity in India.
- Strategic Roadmap: A multi-year program was adopted to integrate Security by Design and perform joint financial-cyber simulations to protect digital economies.
- Space Start-ups: Directed ISRO and ISA to move beyond satellite launches toward fostering joint ventures between private space start-ups.

4.　Economic & Fintech Connectivity

- Unified Payments (UPI): A major breakthrough to link India's UPI with Israel's fast payment system, facilitating real-time cross-border transactions.
- Trade Frameworks: Following the 2025 Bilateral Investment Agreement, both nations have fast-tracked Free Trade Area (FTA) negotiations to unlock untapped market potential.
- Infrastructure: India will increase participation in Israeli mega-projects, including metro, rail, and desalination plants.

5.　Agriculture, Water & Marine Heritage

- Innovation Centres: Established the India-Israel Innovation Centre for Agriculture (IINCA) and a new Joint CoE in Fisheries and Aquaculture.
- Water Diplomacy: Expanded the Cleaning of the Ganges initiative using Israeli wastewater reuse and desalination technologies.
- Underwater Archaeology: A unique MoU between Lothal (National Maritime Heritage Complex) and the Israel Antiquities Authority for underwater archaeological exploration.

6.　Regional Security & Labor Mobility

- Counter-Terrorism: Jointly condemned the Oct 7 (Israel) and 2025 Pahalgam/Delhi (India) attacks; expressed support for the Gaza Conflict End Plan and freedom of navigation.
- Worker Safety: Formalized protocols for 50,000 additional Indian workers to enter Israel over 5 years, ensuring strict safety and legal rights under the 2023 Framework Agreement.

Challenges to Bilateral Relations:

1. Regional Stability & Conflict: Ongoing Middle East tensions can complicate India's energy security and diaspora safety.

E.g. The suspension of Druzhba oil flows and Gaza conflict volatility require India to balance its Special Strategic Partnership with energy-rich Arab nations.

1. The Balancing Act (Palestine): India remains committed to a two-state solution, which occasionally creates diplomatic friction during heightened Israel-Palestine escalations.

E.g. India's support for President Trump's Gaza Peace Plan shows a careful alignment with peace processes while maintaining its independent stance at the UN.

1. Cross-Border Terrorism: Both nations are victims of terrorism, requiring synchronized global policy which is often hindered by differing international definitions of terror.

E.g. The 2025 attacks in Pahalgam and New Delhi underscore the persistent threat that demands intelligence-sharing beyond just hardware sales.

1. Cyber Vulnerabilities: As financial systems link (UPI-Israel), the risk of sophisticated state-sponsored cyber-attacks increases.

E.g. The March 2025 inaugural Cyber Policy Dialogue was established specifically to address the surge in financial-cyber threats targeting digital infrastructure.

1. Trade Barriers: Despite high intent, the Free Trade Agreement (FTA) has faced delays due to complex regulatory and tariff structures in both economies.

E.g. The 2026 Terms of Reference (ToR) for the FTA were signed only after years of negotiation to protect domestic manufacturing in both countries.

Way Ahead:

1. IMEC Implementation: Accelerate the India-Middle East-Europe Economic Corridor to integrate Israel as a Mediterranean gateway for Indian goods.

2. Semiconductor Diplomacy: Leverage Israel's chip-design prowess to fuel India's Atmanirbhar semiconductor missions in Dholera and other industrial nodes.

3. Water Security: Scale the Ganges cleaning and desalination projects using Israeli Waste-to-Water technology as a model for all Indian states.

4. Academic Integration: Operationalize the I2I Forum (Academic Cooperation Forum) to ensure that R&D moves from labs to commercial markets.

5. Deep-Tech Joint Ventures: Transition from a buyer-seller relationship in defense to co-development and co-production under the 'Make in India' framework.

Conclusion:

The elevation of ties to a Special Strategic Partnership reflects a mature relationship that has moved past traditional defense deals into the realms of AI, space, and food security. By integrating Israeli innovation with Indian scale, both nations are creating a blueprint for South-South and North-South cooperation. This partnership is not just a bilateral necessity but a pivotal pillar for stability in the emerging Indo-Abrahamic landscape.

Villages of Excellence Initiative

Context:

Prime Minister of India announced the Villages of Excellence initiative during his state visit to Israel in February 2026 to scale up agricultural cooperation.

About Villages of Excellence Initiative:

What it is?

- The Villages of Excellence is a grassroots-level extension of the Indo-Israel Agriculture Project (IIAP).
- While previous cooperation focused on centralized high-tech hubs, this initiative aims to transform entire farming clusters into modern, technology-driven agricultural zones by integrating Israeli expertise directly into local village ecosystems.

Nations Involved: India and Israel

Aim:

- The primary goal is to bridge the gap between high-tech research centers and the common farmer.
- By taking Israeli technology from the Centres to the Villages, the initiative aims to significantly increase the productivity and income of lakhs of Indian farmers through sustainable, future-ready farming solutions.

Key Features:

- Expansion of CoEs: A target has been set to increase the number of Centres of Excellence (CoEs) across India to 100.
- Grassroots Integration: Developing villages located around existing CoEs to act as models for surrounding regions.

- Technological Suite: Implementation of precision farming, satellite-based irrigation, advanced nursery management, and integrated pest management.
- IINCA Support: Supported by the newly established India-Israel Innovation Centre for Agriculture (IINCA), which provides the research base for these villages.
- Capacity Building: Training for farmers on-site and the launch of 20 joint fellowships for Indian researchers to study in Israel.

Significance:

- Directly targets the doubling of farmers' income by reducing waste and increasing crop yields.
- The initiative is a cornerstone of the newly elevated Special Strategic Partnership for Peace, Innovation & Prosperity between the two nations.

India-Bhutan Trans-Boundary River Cooperation

Context:

An Indian delegation led by the Secretary of Water Resources, visited Bhutan to strengthen bilateral cooperation on trans-boundary rivers.

Scale 1: 13 000 000   1 cm = 130 kms

About India-Bhutan Trans-Boundary River Cooperation:

What it is?

- India and Bhutan share a unique and deep-rooted partnership centered on water diplomacy.
- This cooperation involves the joint management of river basins that flow from the Himalayas in Bhutan into the Indian states of Assam and West Bengal.
- It covers three main pillars: hydropower generation, flood management, and technical data sharing.

Major Rivers Flowing Through:

Several perennial rivers originate in the Bhutanese highlands and serve as the lifeline for both nations:

- Manas River: The largest river system of Bhutan; it meets the Brahmaputra in Assam.
- Sankosh River: Forms the border between Bhutan and India in certain stretches.
- Wang Chhu (Raidak): Supports multiple major hydropower plants.
- Amo Chhu (Torsa): Flows into West Bengal.
- Punatsangchhu (Sankosh tributary): Currently the site of massive joint infrastructure development.

Major Projects:

The Hydro-diplomacy between the two nations has resulted in several iconic projects:

- Punatsangchhu-I & II: Massive 1,200 MW and 1,020 MW projects (respectively) being implemented with Indian assistance.

- Chukha Hydropower Project: The first major project (336 MW), which became a gold standard for bilateral cooperation.
- Kuri Chhu & Tala Projects: Essential contributors to Bhutan's export revenue and India's power grid.
- Mangdechhu: A 720 MW project recently handed over to Bhutan, known for its high efficiency.

Key Features of the Partnership:

- Hydro-Meteorological Network: India supports a network of observation stations in Bhutan to provide real-time data on water levels.
- Flood Forecasting: Joint mechanisms to provide early warnings to downstream Indian states (Assam and West Bengal) during the monsoon.
- GLOF Monitoring: Enhanced focus on monitoring melting glaciers to prevent Glacial Lake Outburst Floods that threaten both nations.
- Capacity Building: Indian agencies like WAPCOS Ltd. provide technical expertise and training to Bhutanese engineers.

Significance:

- Hydropower is the largest contributor to Bhutan's GDP and its biggest export to India.
- Provides India with clean, renewable firm power to balance its national grid.

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Pax Silica initiative

Context:

India has joined the U.S.-led Pax Silica initiative, aimed at building resilient supply chains for electronics, artificial intelligence and critical minerals.

About Pax Silica initiative:

What it is?

- Pax Silica is a strategic international initiative led by the United States Department of State to strengthen secure, resilient and trusted supply chains for critical minerals, semiconductors, electronics and AI technologies.

History:

- Conceptualised as a response to growing concerns over supply-chain vulnerabilities and concentration of rare-earth processing.
- Held its inaugural summit in Washington D.C. in December 2025.

Aim:

- To create resilient and diversified global supply chains for critical minerals, semiconductors and AI-related technologies.
- To deepen economic partnerships among like-minded countries and reduce risks from coercive or monopolistic supply

Participants:

- Signatories include: Australia, Greece, Israel, Japan, Qatar, Republic of Korea, Singapore, UAE, United Kingdom, India (new entrant).
- Non-signatory participants: Canada, European Union, Netherlands, OECD, Taiwan.

Key Features:

- Supply chain security focus: Promotes diversification of electronics and critical mineral supply chains to reduce excessive concentration risks.
- AI and technology collaboration: Encourages cooperation across AI systems, semiconductors, data infrastructure and advanced manufacturing ecosystems.
- Critical minerals partnership: Supports coordinated refining, processing and access to rare-earth and strategic minerals needed for future technologies.
- Investment and infrastructure cooperation: Promotes shared investments and incentives to strengthen trusted industrial and technology networks.
- Trusted innovation ecosystem: Builds collaboration among governments, industries and innovators to create secure and reliable technology stacks.
- Fair market and security framework: Addresses non-market practices, unfair dumping and protects sensitive technologies and critical infrastructure.
- Private sector participation: Mobilises entrepreneurship and industry capabilities to scale innovation and strengthen economic security.
- Strategic economic alignment: Aims to align partner countries on long-term technology governance and resilient global economic architecture.

Chabahar Port

Context:

Iran has reaffirmed its support for the Chabahar Port project and deeper cooperation with India despite uncertainty arising from renewed U.S. sanctions and the possible expiry of the sanctions waiver.

About Chabahar Port:

What it is?

- Chabahar Port is Iran's only oceanic deep-sea port, developed as a multipurpose commercial and strategic port to facilitate regional trade, transit, and connectivity between South Asia, Central Asia, and the Middle East.

Location:

- Situated in southeastern Iran, in Sistan–Baluchestan province
- Lies on the Gulf of Oman, with direct access to the Indian Ocean
- Around 170 km west of Gwadar port (Pakistan), making it geopolitically significant

Historical background:

- First conceptualised in the 1970s under the Shah of Iran; progress stalled after the 1979 Iranian Revolution
- Gained importance during the Iran–Iraq War (1980–88) as an alternative to Persian Gulf ports
- India–Iran cooperation began in 2003, but sanctions delayed implementation
- In 2016, India, Iran and Afghanistan formalised cooperation to use Chabahar as a transit hub
- India took over port operations in 2018; a 10-year contract was signed in 2024, including a $250 million Line of Credit

Key features:

- Comprises two terminals: Shahid Kalantari and Shahid Beheshti
- Designed to handle container, bulk, and multipurpose cargo
- Capability to berth large ocean-going vessels, unlike Bandar Abbas
- Integrated with road–rail projects connecting Iran to Afghanistan and Central Asia
- Part of the broader International North–South Transport Corridor (INSTC) vision

Significance

Strategic for India:

- Bypasses Pakistan to access Afghanistan and Central Asia
- Enhances India's role in Eurasian connectivity
- Geopolitical leverage: Acts as a counter-balance to China-backed Gwadar Port under CPEC
- Economic importance: Facilitates trade, humanitarian aid (e.g., wheat shipments to Afghanistan), and regional integration

From Strategic Autonomy to Viksit Bharat: Reframing India's Foreign Policy

Context:

Prime Minister Narendra Modi formally acknowledged a new world order in Parliament, signaling a transition from the traditional policy of strategic autonomy toward a more proactive, interest-based framework centered on the vision of Viksit Bharat 2047.

About From Strategic Autonomy to Viksit Bharat: Reframing India's Foreign Policy

What it is?

- The new foreign policy framework represents a shift from a posture of tactical neutrality and strategic autonomy—which often prioritized non-alignment—to a purpose-driven engagement aimed at India's long-term transformation into a developed nation.

The Erosion of Multilateralism:

- Dysfunctional Global Institutions: Traditional bodies like the WTO have become paralyzed as major powers bypass consensus-based rules.

E.g. In late 2025, the U.S. continued to reject the WTO's dispute settlement mechanism, forcing India to pursue bilateral mini-trade deals to resolve tariff issues.

- Rise of Transactional Diplomacy: International relations are no longer guided by shared liberal values but by America First or China-centric transactionalism.

E.g. The U.S. exit from the International Solar Alliance (ISA) and the WHO in 2025–26 underscores a retreat from global public goods.

- Weaponization of Trade: Tariffs and sanctions are increasingly used as tools of coercion rather than just economic policy.

E.g. The imposition of 50% tariffs by the U.S. on Indian steel and aluminum in 2025 was explicitly linked to India's purchase of Russian oil.

- China's Institutional Capture: Beijing's dominance in UN agencies and its vast aid volumes have eroded the intellectual leadership India once held in the Global South.

E.g. China now heads several principal UN agencies, using its influence to skew global standards in digital governance and infrastructure.

The Limits of Strategic Autonomy:

- Cold War Obsolescence: Strategic autonomy was a product of the Cold War; in a world of technological competition, being unaligned can lead to being excluded.

E.g. Pressure to choose between U.S. Patriot and Russian S-400 systems showed that maintaining two steadfast partners is increasingly difficult.

- Economic Vulnerability: Relying on autonomy without domestic industrial strength makes the policy a hollow identity during global supply chain shocks.

E.g. India's 90% dependence on semiconductor imports from East Asia (2025 data) limits its ability to take an independent stand on Indo-Pacific tech norms.

- The Swing State Label: The U.S. and its allies no longer view India as autonomous but as a swing state that must be incentivized to join their bloc.

E.g. High-level U.S. military strategy in 2025 shifted toward managed competition, viewing India's neutrality as a variable rather than a constant.

- Fragmented Global South: The interests of developing nations have differentiated, making it harder for India to claim unquestioned leadership in multilateral forums.

E.g. At recent climate summits, African and Pacific island nations have developed distinct agendas, sometimes diverging from India's position on coal and finance.

The New Strategic Reality for India:

- Asymmetric Power Politics: Relations are returning to a 19th-century style of might is right, where smaller nations are forced into subordinate trade relationships.

E.g. The India-U.S. Interim Trade Agreement (Feb 2026) required India to double imports of industrial products to secure a tariff reduction.

- Technological Dominance as Sovereignty: Future power will be defined by AI, cyber capabilities, and space, not just territorial boundaries.

E.g. The India-Russia agreement (2025) to mutually deploy NavIC and GLONASS ground stations is a move toward a non-Western navigation ecosystem.

- Competitive Manufacturing: To grow, India must compete in a world where the multilateral ladder used by China to rise has been pulled up.

E.g. The China Plus One strategy has seen India double its electronics exports to 4 lakh crore in 2025, yet it faces steep competition from Vietnam and Mexico.

- Neighborhood Volatility: India's immediate surroundings are becoming more complex with the rise of Islamic extremism and Chinese influence in Bangladesh and Pakistan.

E.g. The proposed Bangladesh-Pakistan mutual defense agreement (2025) presents a new 2.5-front security challenge for Indian diplomacy.

Reframing Indian Foreign Policy:

- Bide Time and Build Internally: Adopting a low international profile to focus on the PLI schemes and domestic infrastructure (Viksit Bharat goals).

E.g. The Union Budget 2026-27 focused on Rare Earth Corridors to bypass Chinese processing, building endogenous supply chain security.

- Aggressive Trade Diversification: Moving beyond the U.S. market by finalizing massive FTAs with the European Union (Jan 2026) and the UK.

E.g. The India-EU FTA (2026) created the world's largest free trade zone, covering 99% of India's export trade.

- New Tech-Centric Alliances: Prioritizing relations with Russia and middle powers for space, quantum, and cyber technologies.

E.g. The Kazan (2024) and Tianjin (2025) summits focused on linking official digital currencies for cross-border BRICS trade.

- Passive Regional Posture: Treating neighborhood issues as foreign policy challenges rather than security crises to ensure economic focus remains uninterrupted.

E.g. The Viksit Bharat 2047: India-Kuwait Dialogues show a shift toward using investment and energy diplomacy to stabilize regional interests.

Conclusion:

India's foreign policy is undergoing its most significant transformation since 1991, shifting from a defensive strategic autonomy to an assertive Viksit Bharat 2047 vision. By building endogenous technological strength and diversifying trade through the mother of all deals with the EU, India aims to navigate a fragmenting world as an independent global pole.

Chapter-

9

SOCIAL ISSUES

Social Media Ban for Children

Context:

The tragic suicide of three sisters in Ghaziabad, sparked by screen addiction and parental conflict over mobile phone use, has reignited an intense national debate on banning social media for minors in India.

About Social Media Ban for Children:

What is it?

- A social media ban for children refers to legal or regulatory prohibitions that prevent individuals under a certain age (typically 16) from creating or maintaining accounts on major digital platforms.
- It involves shifting the burden of age verification onto tech companies, often requiring government-issued IDs or biometric verification to ensure minors do not access these digital Wild Wests.

Key Trends and Data Statistics:

- India's Massive User Base: India has the world's largest user base for platforms like Instagram and Facebook, both exceeding 400 million users in 2026.
- High Teen Usage: The ASER Report (2025-26) indicates that over 90% of Indian teenagers are active social media users.
- Mental Health Warning: The Economic Survey 2025-26 officially flagged compulsive scrolling and digital addiction as a major public health concern for India's youth.
- Gender Gap: Data shows a stark digital divide: only 33.3% of women in India have ever used the internet, compared to 57.1% of men.
- Time Commitment: Recent surveys show 61% of urban Indian children spend over 3 hours daily on the internet, with many exceeding 6 hours.

Need for Social Media Ban for Children:

- Combating Extreme Addiction: Prolonged exposure to algorithm-driven content can lead to fatal behavioral shifts.

E.g. The 2026 Ghaziabad triple suicide was linked to a Korean task-based love game that the sisters felt they could not leave.

- Mental Health Protection: Heavy use is consistently linked to anxiety, depression, and body image dissatisfaction.

E.g. The Economic Survey 2025-26 explicitly links high screen time to worsening mental health outcomes in the 15-24 age group.

- Prevention of Cyber-Grooming: Bans reduce the likelihood of minors being targeted by predators in unmoderated spaces.

E.g. Recent reporting in early 2026 highlighted failures in AI chatbots leading to sexualized interactions with minors.

- Reducing Exposure to Self-Harm Content: Restricting access limits the contagion effect of viral self-harm tasks.

E.g. Investigating authorities in Uttar Pradesh found the Ghaziabad sisters' obsession with online tasks directly influenced their decision to jump.

- Restoring Academic Focus: Constant notifications disrupt sleep and cognitive development essential for learning.

E.g. The Chief Economic Adviser noted in January 2026 that cheap data and constant scrolling are eroding the attention spans of Indian students.

Challenges to Banning Social Media:

- Technical Porosity: Children are often more tech-savvy than regulators and easily bypass bans using VPNs.

E.g. Despite age-gating, millions of Indian minors currently use VPNs to access restricted content or apps previously banned (like TikTok).

- Privacy and Surveillance Risks: Mandatory age verification often requires linking accounts to government IDs.

E.g. Critics argue that enforcing the Digital Personal Data Protection (DPDP) Act rules could lead to a mass surveillance framework via Aadhaar-linked logins.

- Loss of Digital Lifelines: For marginalized groups, social media is often the only space for community support.

E.g. Queer and differently-abled youth in rural India rely on these platforms for peer support absent in their physical environments.

- Exacerbating Gender Inequality: Rigid policing of devices often results in parents confiscating phones only from girls.

E.g. In patriarchal settings, government age mandates give a pretext for families to further restrict female internet access, widening the existing usage gap.

- Push to Darker Corners: Bans may drive users from regulated platforms (Instagram) to unmoderated, encrypted spaces.

E.g. Past bans on specific apps in India saw users migrate to Telegram groups where extremist and unmoderated content thrives unchecked.

Global Best Practices

- Australia's Minimum Age Law: Australia became the first to enforce a strict under-16 ban on platforms like X and TikTok, backed by fines of up to $50 million.
- Singapore's App Store Code: Instead of a blanket ban, Singapore regulates app stores to enforce age ratings and strict checks before an app can even be downloaded.

Way Ahead:

- Legally Enforceable Duty of Care: Move beyond bans to hold Big Tech accountable for the safety-by-design of their algorithms.
- Independent Expert Regulator: Establish a dedicated body for digital safety rather than relying on the bureaucracy of MeitY.
- Localized Research: Fund longitudinal studies to understand how social media affects Indian children across different castes and regions.
- Democratic Inclusion: Policy for young people must include their voices; children should be active participants in defining digital safety.
- Healthy Media Ecology: Focus on digital literacy in schools to help children navigate the Wild West rather than simply building a wall around it.

Conclusion:

A blunt ban on social media offers a comforting illusion of control but fails to address the underlying technical architecture and social inequalities that drive harm. Instead of stripping children of their digital rights, India must compel Big Tech to adopt a duty of care while fostering a healthy, regulated media ecology. Protecting our children requires the hard work of systemic reform, not the easy fix of a symbolic crackdown.

Women led decentralised renewable energy India

Context:

The India Distributed Renewable Energy Summit (IDRES) 2026 recently highlighted women-led decentralised renewable energy (DRE) as a strategic pillar for India's net-zero transition.

- Concurrently, Chhattisgarh launched "Anjor Vision 2047," aiming to establish 5,000 women-led DRE solutions and create 50,000 green jobs by 2030.

About Women led decentralised renewable energy India:

What it is?

- Women-led DRE is a transformative model that moves rural women from being passive last-mile consumers to active designers, owners, and operators of small-scale energy systems (like solar pumps, mini-grids, and solar dryers).
- It integrates energy access with gender equity, ensuring that clean energy infrastructure is managed by local women collectives, such as Self-Help Groups (SHGs), to power both domestic needs and rural livelihoods.

Key Data and Facts:

- Representation Gap: Women currently represent only 11% of India's renewable energy workforce, compared to a 32% global average.
- Income Impact: 90% of women using DRE solutions report an income increase, with average earnings rising by one-third within a year.
- Health Crisis: Indoor air pollution from traditional biomass causes approximately 2,00,000 premature deaths annually in India, primarily among women.
- Economic Potential: Empowering women in the energy sector could add trillion to India's economy by 2025-26.
- Scale of Impact: Technologies like solar silk-reeling have helped women increase monthly incomes from 1,500 to 6,000.

Needs for Women-Led DRE:

- Bridging the Reliability Deficit: While grid connectivity is high, rural consistency is low; DRE provides the reliable quality power needed for essential services.

E.g. In rural Chhattisgarh, forest-fringe villages use DRE to power health centers, ensuring refrigeration for life-saving vaccines during grid outages.

- Mitigating Time Poverty: Women spend 3–4 hours daily collecting fuelwood; DRE automates drudgerous tasks, freeing time for education or rest.

E.g. In Odisha, solar-powered silk-reeling machines have replaced manual thigh-reeling, saving hours of physical labor for tribal women weavers.

- Enhancing Rural Safety: Lack of reliable lighting restricts women's mobility and safety after dark.

E.g. Solar-powered streetlights in Uttar Pradesh villages have reportedly increased women's participation in evening community meetings and SHG activities.

- Productive Use of Energy (PURE): Affordable energy is required to mechanize small-scale rural enterprises to make them competitive.

E.g. Women-run dairies in Rajasthan use solar-powered bulk milk chillers to prevent spoilage, allowing them to sell to larger markets.

- Climate Resilience: Centralized grids are vulnerable to extreme weather; decentralized systems managed by locals ensure community resilience.

E.g. During the recent cyclones in coastal Andhra Pradesh, solar-powered micro-grids managed by women's groups remained the only source of power for mobile charging and emergency lights.

Initiatives Taken So Far:

- PM Surya Ghar (Solar Villages): Aims to establish 10,000 solar villages by 2030 with a focus on community and women-led management.
- Lakhpati Didi Scheme: Targets creating 3 crore Lakhpati Didis by integrating DRE technologies into SHG-led businesses like food processing and textiles.
- Anjor Vision 2047 (Chhattisgarh): A dedicated state roadmap to increase RE share to 66% through women-led green jobs and Solar Didis.
- Solar Urja Lamp (SoUL) Project: An IIT Bombay-led initiative that trained rural women (specifically in Bihar) to assemble and maintain solar lamps.

Key Challenges Associated:

- High Upfront Costs: DRE appliances like solar refrigerators or solar pumps require significant initial capital that rural women lack.

E.g. A solar bulk milk chiller can cost up to 25 lakh, a prohibitive sum for a typical village SHG without low-interest green credit.

- Technical Skill Gap: There is a shortage of local women technicians (Oorja Sakhis) to handle maintenance and repairs.

E.g. In many remote districts of Jharkhand, solar installations often lie defunct for months because the nearest technician is a man located in a distant city.

- Deep-Seated Patriarchy: Traditional gender roles often exclude women from technical decision-making or asset ownership.

E.g. Agriculture Census data shows women own only 13.9% of land in India, making it difficult for them to secure bank loans for energy assets like solar pumps.

- Limited Market Awareness: Many rural entrepreneurs are unaware of the profit potential or existence of DRE livelihood technologies.

E.g. Small-scale fruit processors in Himachal Pradesh often continue using expensive diesel generators because they lack information on solar-dryer subsidies.

- Service Infrastructure Deficit: Post-sale service and spare parts for DRE machines are rarely available at the village level.

E.g. In Western Odisha, seasonal demand for solar irrigation is high, but system downtime during peak harvest persists due to a lack of local spare-part depots.

Way Ahead:

- Asset Ownership: Policies should mandate women as primary or joint owners of energy assets, similar to the Ujjwala Yojana model.
- Green Credit Access: Launch dedicated credit lines and First Loss Default Guarantees (FLDG) for women-led clean-tech enterprises.
- Solar Didis: Scale up vocational training for women in STEM and technical roles to create a local cadre of maintenance sakhis.
- Panchayat Integration: Empower Gram Panchayats to use Own Source Revenue to partner with women's collectives for Energy-as-a-Service.
- Mainstreaming DRE: Integrate DRE technologies into existing flagship schemes like the National Rural Livelihoods Mission (DAY-NRLM).

Conclusion:

India's energy transition will only be truly just when the women at the last mile transition from being beneficiaries to being leaders of the system. By scaling women-led DRE, India can simultaneously address energy poverty, climate targets, and gender inequality. Turning the last mile into the front line of progress is the fastest way to a Viksit Bharat.

Startup India Fund of Funds 2.0

Context:

The Union Cabinet has approved the Startup India Fund of Funds 2.0 (FoF 2.0) with a 10,000 crore corpus to mobilise venture capital for India's startup ecosystem.

About Startup India Fund of Funds 2.0:

What it is?

- Startup India FoF 2.0 is a 10,000 crore government-backed fund designed to mobilise long-term domestic capital by investing in Alternative Investment Funds (AIFs), which in turn invest in startups.

Established in:

- Approved in 2026 by the Union Cabinet.
- Launched under the broader Startup India initiative.
- Builds on the earlier Fund of Funds for Startups (FFS 1.0) launched in 2016.

Aim:

- To accelerate the next phase of India's startup growth.
- To strengthen the domestic venture capital ecosystem.
- To support innovation-led, technology-driven entrepreneurship.
- To reduce early-stage funding gaps and high-risk capital constraints.

Key Features:

- 10,000 crore Corpus: Dedicated government-backed capital to catalyse venture funding.
- Targeted Segmented Funding: Focus on deep-tech and innovative manufacturing sectors.
- Support to Early-Growth Startups: Reduces early-stage failures due to capital shortages.
- Pan-India Investment Reach: Encourages funding beyond major metro cities.
- High-Risk Capital Gap Bridging: Channels funds to priority and strategic sectors.
- Strengthening Domestic VC Base: Supports especially smaller AIFs to deepen local capital markets.
- FoF Model Structure: Invests in SEBI-registered AIFs rather than directly in startups.

Significance:

- Builds on FFS 1.0, which committed 10,000 crore to 145 AIFs investing 25,500+ crore in 1,370+ startups.
- Promotes deep-tech capabilities in AI, robotics, biotech, clean-tech and advanced manufacturing.
- Enhances India's economic resilience and innovation competitiveness.

The Vibrant Villages Programme–II (VVP-II)

Context:

Union Home Minister launched the Vibrant Villages Programme–II (VVP-II) in Assam's Cachar district to promote comprehensive development of border villages.

About The Vibrant Villages Programme–II (VVP-II):

What it is?

- The Vibrant Villages Programme–II (VVP-II) is a Central

Sector Scheme focused on the comprehensive development of villages located in blocks abutting India's International Land Borders (ILBs) (excluding northern border areas already covered under VVP-I).

Launched in:

- Approved by the Central Government for implementation during FY 2024-25 to 2025-26, with financial support extending up to 2028-29.
- Officially launched in February 2026 at Nathanpur village, Cachar district, Assam.

History:

- 1986-87: Border Area Development Programme (BADP) launched to fill infrastructure gaps in border regions.
- Over time, border villages continued to face migration, livelihood insecurity and development deficits.
- 2023: Vibrant Villages Programme (VVP-I) launched for northern borders to reverse out-migration and strengthen strategic villages.
- VVP-II: Extended the model to other international land borders (Indo-Bangladesh, Indo-Nepal, Indo-Myanmar, Indo-Bhutan, Indo-Pakistan etc.) across 15 States and 2 UTs with area-specific strategies.

Aim:

- To address infrastructure gaps, improve living conditions and create sustainable livelihood opportunities in border villages.
- To integrate border populations with mainstream development and enable them to act as "eyes and ears" for border guarding forces.

Key Features:

- Central Sector Scheme with an outlay of 6,839 crore up to FY 2028-29.
- Implemented across 15 States and 2 Union Territories.
- Saturation-based approach: Ensures coverage of all eligible households under existing government schemes.
- Convergence model: Integrates multiple flagship schemes for efficient resource use.

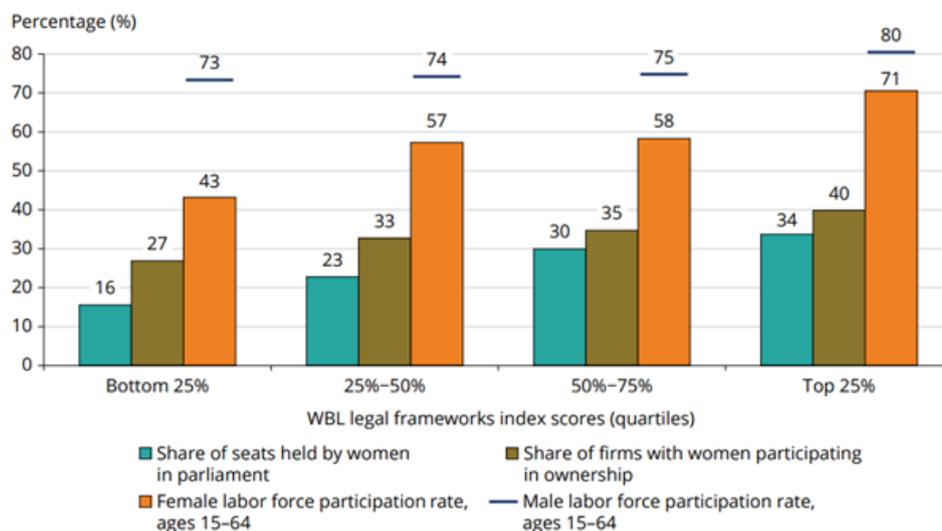## Focus on 4 core infrastructure themes:

- All-weather road connectivity (PMGSY-IV)
- Telecom connectivity (Digital Bharat Nidhi)
- Television connectivity (BIND scheme)
- Electrification (RDSS)
- Identification of 1,954 strategic villages for intensive development.
- Livelihood promotion through tourism, SHGs, FPOs, skill development and financial inclusion.
- Border-specific outreach activities to build trust between communities and border security forces.

World Bank's Women, Business and the Law 2026 report

Context:

The World Bank's Women, Business and the Law 2026 report highlights a significant global implementation gap, where laws for women's economic equality exist on paper but often fail in practice due to weak enforcement and lack of supportive systems.

FIGURE ES.1 Equality laws are associated with more women working, owning businesses, and participating in politics, as well as a reduced gender gap in labor force participation

Legend:
- Share of seats held by women in parliament
- Share of firms with women participating in ownership
- Female labor force participation rate, ages 15-64
- Male labor force participation rate, ages 15-64

About the World Bank's Women, Business and the Law 2026 report:

What it is?

- The Women, Business and the Law (WBL) 2026 report is the 11th in a series of annual studies measuring the laws and policies affecting women's economic opportunities in 190 economies.
- This edition uses the WBL 2.0 framework, which benchmarks three pillars:
- Legal Frameworks (the laws),
- Supportive Frameworks (policies and services), and
- Enforcement Perceptions (how laws are applied in reality).

Key Highlights of the Report:

- The Global Score: The global average score for legal frameworks is 67.9 out of 100, but it drops sharply to 47.3 for supportive frameworks and 53.4 for enforcement perceptions.
- Safety Gap: Safety is the lowest-scoring area; while many countries have some laws, enforcement fails roughly 80% of the time, and only one-third of the necessary safety laws are in place globally.
- The 4% Benchmark: Only 4% of women live in economies that have achieved nearly full legal equality (scoring 90 or above) across all three pillars.
- Economic Stakes: Closing the gender gap in labor force participation could increase global GDP by more than 20% over the next decade.
- Childcare Deficit: Less than half of the 190 economies have laws providing financial support for families, and in low-income economies, only 1% of the required childcare support mechanisms exist.
- Entrepreneurship Barriers: Although women can legally start businesses in most places, only half of economies promote equal access to credit.
- Reform Momentum: Over the last two years, 68 economies enacted 113 positive legal reforms, with Sub-Saharan Africa leading with 33 reforms.
- Implementation Crisis: On average, economies have established fewer than half of the policies and services needed for effective enforcement of equality laws.

Global Best Practices:

- Integrated Implementation: Best-performing economies align legal changes with dedicated budgets and specialized enforcement agencies, such as gender-specific police units for safety.
- Incentivizing Care: Economies that provide direct subsidies for childcare and mandate paid parental leave for both parents see significantly higher female labor participation.
- Gender-Responsive Procurement: Countries like Viet Nam have enacted legislation including gender-responsive provisions for public procurement processes to support women-led businesses.

Challenges Associated:

- Ineffective Safety Protections: Laws against harassment often lack the specialized agencies needed for real protection.

E.g. In many economies, laws against sexual harassment exist, but specialized courts or hotlines to handle cases are frequently missing.

- The Motherhood Penalty: A lack of affordable childcare often forces women to exit the workforce.

E.g. In many developing economies, there is a total absence of financial or tax support for families to access high-quality childcare services.

- Financial Exclusion: Cultural norms and credit biases prevent women from securing loans even when they have the legal right to start a business.

E.g. Only half of the world's economies have laws that specifically prohibit gender-based discrimination in financial services.

- Weak Monitoring Systems: Governments fail to track how laws are actually impacting women's lives.

E.g. Most economies lack the data-gathering systems required to monitor if equal pay for equal work is actually being practiced in the private sector.

- Legal Gaps in Basic Rights: In some regions, laws still restrict women's mobility or rights within marriage.

E.g. In parts of the Middle East and North Africa, legal reforms are slow to address basic issues like a woman's right to choose where to live.

Way Ahead:

- Bridge the Implementation Gap: Focus on building the institutional capacity and funding required for the supportive frameworks that turn laws into reality.
- Invest in Care Infrastructure: Prioritize the expansion of public and private childcare services to reduce the unpaid care burden on women.
- Mandate Equal Credit Access: Enact laws that prohibit gender discrimination in lending and promote credit-reporting models that recognize women's repayment histories.
- Strengthen Safety Services: Establish 24/7 hotlines, specialized police units, and legal aid services for survivors of violence.
- Adopt Gender-Disaggregated Data: Use data to track policy impacts and identify specific areas where enforcement is failing at the local level.

Conclusion:

The 2026 report demonstrates that while legal progress is being made, the global community is failing on the implementation of these rights. To unlock massive economic growth, governments must move beyond legislative milestones and invest in the enforcement and support systems that ensure true equality in practice. Only then will the 600 million girls entering the workforce this decade have a fair chance at success.
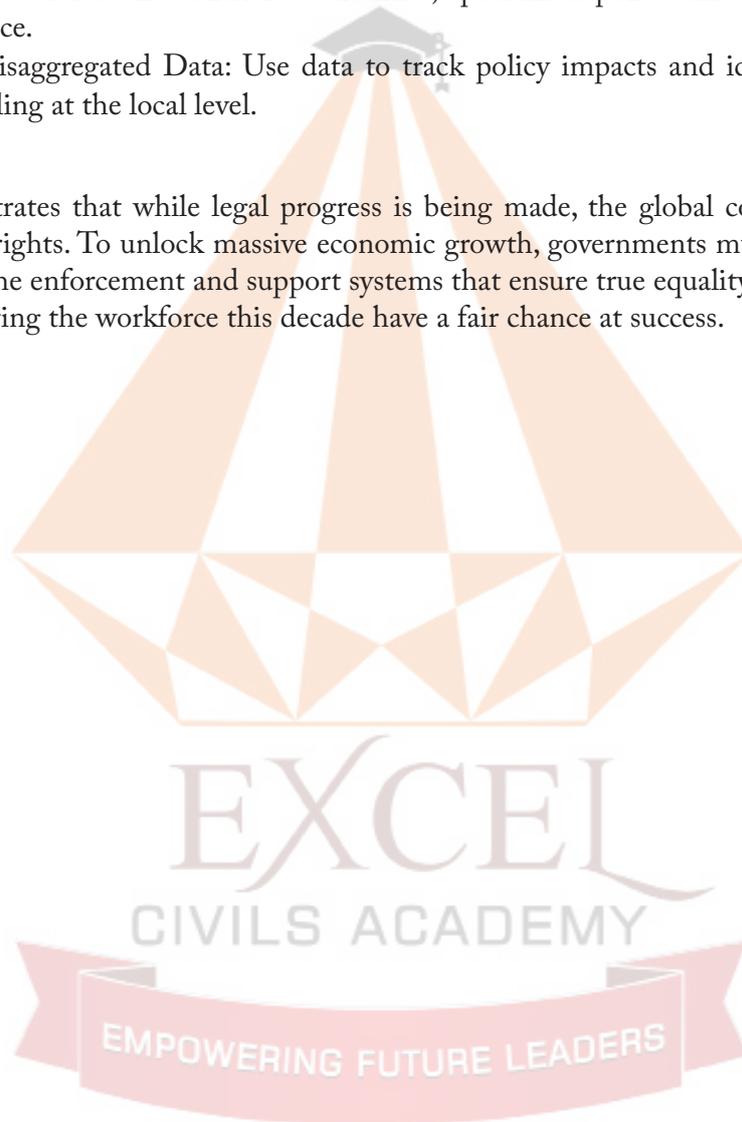
Chapter-
10

DEFENCE

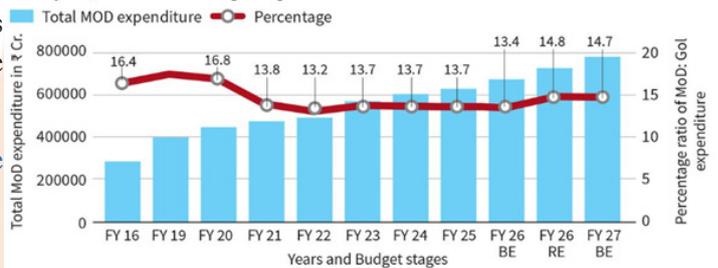## Increased Capital Spending for the Defence Sector

Context:

The government announced a historic 15.2% hike in the total defence budget for FY2026-27, primarily to address tactical gaps exposed by the recent Operation Sindoor conflict.

- The allocation aims to strengthen India's "security-development-self-reliance" balance amid rising geopolitical tensions.

About Increased Capital Spending for the Defence Sector:

What it is?

- Capital spending (or capital outlay) is the portion of the budget dedicated to modernization and the acquisition of new assets such as advanced weapons, fighter jets, ships, and submarines.
- For FY2026-27, capital outlay has surged by 8% to reach 2,19,306 crore, marking a strategic pivot from manpower costs to technology-intensive capability building.

Important Budget Announcements:

1. **Record Total Allocation:** A total of 7.85 lakh crore was granted to the Ministry of Defence, the highest among all ministries.

2. **Modernization Surge:** Capital outlay for new acquisitions rose by nearly 22%, totaling 2.19 lakh crore.

3. **Domestic Procurement Target:** 75% of the capital acquisition budget—amounting to 1.39 lakh crore—is reserved for domestic industry.

4. **Border Infrastructure Hike:** Allocation for the Border Roads Organisation (BRO) increased to 7,394 crore for strategic tunnels and bridges.

5. **R&D Expansion:** Budget for DRDO rose to 29,100 crore to foster indigenous innovation in next-gen technology.

6. **Customs Duty Waivers:** Basic customs duty was waived on raw materials for aircraft manufacturing to boost the domestic MRO (Maintenance, Repair, and Overhaul) sector.

A significant increase

This is the first full Union Budget presented after Operation Sindoor, and the financial footprint of the conflict is likely reflected in the budget for defence. The four-day intense aerial engagement following the Pahalgam terror attack exposed the need for a stockpile of armament

CHART 1: Defence expenditure as a percentage of total government expenditure (in ₹ crore) across select years, and at various Budget stages
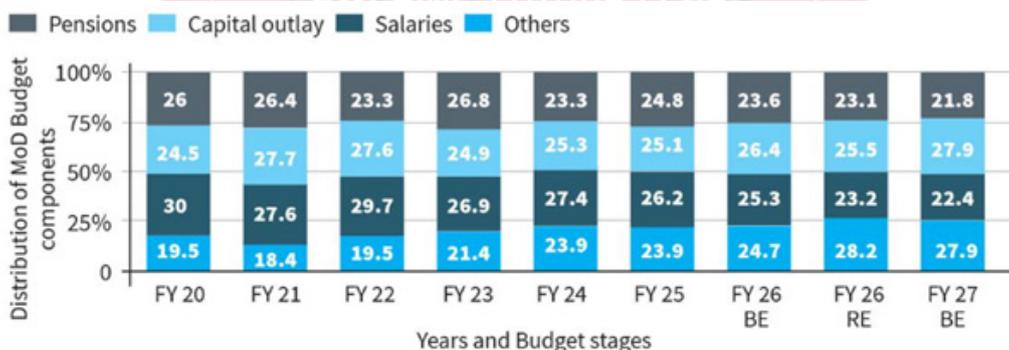
Need for Increasing the Defence Budget:

- **Replenishment of War Reserves:** Essential for replacing stocks depleted during active military engagements.

E.g. High capital outlay is needed to replenish ammunition and precision-guided munitions used during Operation Sindoor in May 2025.

- Countering Two-Front Threats: Necessary to address simultaneous security challenges from adversarial neighbors.

E.g. Modernizing air power and ground forces is critical to maintain deterrence along the Line of Actual Control (LAC) against China.

- Maritime Security in IOR: Strengthening undersea and surface capabilities to monitor the Indian Ocean Region (IOR).

E.g. Funding supports the Project 75(I) stealth submarine deal to counter growing foreign naval presence in Indian waters.

- Technological Superiority: Investing in "sunrise" sectors like AI, cyber, and unmanned systems for future warfare.

E.g. A 51% increase in the Agnipath scheme allocation reflects a push toward a leaner, tech-savvy force.

- Border Connectivity: Ensuring rapid troop mobilization through all-weather infrastructure in forward areas.
- E.g. Increased BRO funding will expedite strategic projects like high-altitude tunnels to ensure year-round connectivity to the borders.

Issues Associated with the Defence Sector:

- Structural Imbalance: High manpower costs (salaries/pensions) continue to eat into the modernization fund.

E.g. Defence pensions alone cost 1.71 lakh crore in FY27, nearly rivaling the entire capital acquisition budget.

- Absorption Capacity: Domestic industries often struggle to execute large-scale contracts within strict timelines.

E.g. Fragmented planning and delayed trials have historically led to under-utilization of allocated capital funds.

- Import Dependency: Critical sub-systems and high-end tech like aero-engines are still largely imported.

E.g. The IAF's 114 MRFA project remains dependent on foreign original equipment manufacturers (OEMs) for combat jet designs.

- Execution and Delivery Delays: Long gestation periods for indigenous platforms can lead to operational gaps.

E.g. The Project 75(I) submarine acquisition has faced years of delays, leaving the Navy with a shrinking underwater fleet.

- Budget as % of GDP: Despite absolute increases, spending remains below the recommended 2.5–3% of GDP.

E.g. The FY27 budget stands at approximately 1.99% of GDP, which experts argue may be insufficient for a full-scale two-front threat.

Way Ahead:

- Institutionalizing Emergency Procurement: Transform fast-track mechanisms used during crises into standard procedures for critical tech.
- Theaterisation and Jointness: Surge funding for "Joint Staff" to enhance inter-service coordination and resource sharing.
- Focus on IP-led Design: Shift from transactional manufacturing to owning Intellectual Property (IP) for at least 50% of contracts.
- Developing Export Hubs: Leverage the domestic base to target 35,000 crore in annual exports by 2027 via modular designs.
- Nurturing MSME Ecosystem: Integrate hundreds of Indian MSMEs into the global supply chain for high-end spares and sensors.

Conclusion:

The FY2026-27 defence budget acts as a stabilization measure that prioritizes immediate tactical readiness and long-term strategic autonomy. By earmarking 75% of acquisitions for domestic players, India is decisively moving

toward becoming a self-reliant global defence hub. However, the success of this record outlay will depend on the industry's ability to deliver advanced technology at the speed of operational relevance.

Military Exercises in News

Context:

India and Thailand conducted a joint air combat exercise in the Indian Ocean Region to enhance interoperability and Indo-Pacific security cooperation.

- Simultaneously, the Indian Air Force announced Exercise Vayushakti-26, showcasing its full-spectrum combat capability at Pokhran.

About Military Exercises in News:

What it is?

- Military exercises are structured training operations conducted by armed forces, either bilaterally or multilaterally, to enhance combat readiness, interoperability, operational coordination, and strategic deterrence.
- They demonstrate military capability, strengthen defence diplomacy, and reinforce regional security partnerships.

About India–Thailand Joint Air Combat Exercise:

What it is?

- A bilateral in-situ air combat exercise conducted in the Indian Ocean Region to deepen defence cooperation under India's Act East Policy.

Host & Location:

- Conducted in the Indian Ocean Region (IOR)
- IAF operated from Andaman & Nicobar Islands

Nations Involved:

- Indian Air Force (IAF)
- Royal Thai Air Force (RTAF)

Key Features:

- IAF Su-30MKI vs Thai SAAB Gripen fighters.
- Supported by IL-78 mid-air refuelling tankers.
- Surveillance via IAF AWACS and Thai GCI units.
- Focus on maritime air combat & long-range reach.
- Boosts Indo-Pacific security and operational synergy

About Exercise Vayushakti-26:

What it is?

- A biennial firepower demonstration exercise by the Indian Air Force to display combat capability, precision strike ability, and multi-domain dominance.

Host & Location:

- Hosted by the Indian Air Force.
- Conducted at Pokhran Air-to-Ground Range, Jaisalmer (Rajasthan).
- Nation Involved: Solely conducted by the Indian Air Force (India).

Key Features:

- Participation of platforms: Rafale, Tejas, Su-30MKI, Mirage-2000, Jaguar, MiG-29, C-130J, C-17, Apache, Chinook, LCH, RPAs.
- Advanced weapons: Akash, SpyDer, SRLM, CUAS.
- Demonstrates day, dusk & night strike missions.
- Showcases indigenous capability under Aatmanirbhar Bharat.

Highlights lessons from Operation Sindoor.

- Core values: Achook (Accurate), Abhedya (Impenetrable), Sateek (Precise).

MILAN 2026 Naval exercise

Context:

Raksha Mantri interacted with Navy Chiefs and delegations from nine ASEAN countries during the MILAN 2026 Naval Exercise held in Visakhapatnam.

About MILAN 2026 Naval Exercise:

What it is?

- MILAN is a multilateral naval exercise initiated by the Indian Navy to enhance maritime cooperation, interoperability and trust among friendly navies in the Indo-Pacific region.
- It serves as a platform for joint training, operational coordination and strategic dialogue on maritime security challenges.
- MILAN 2026 is being conducted at Visakhapatnam, Andhra Pradesh.

Nations Involved:

- Largest-ever edition with participation from 74 nations.
- Includes nine ASEAN member states, reflecting strong regional engagement.

Aim:

- To strengthen maritime cooperation and collective security in the Indo-Pacific region.
- To improve interoperability and operational coordination among participating navies through joint drills and exchanges.

Key Features:

- Theme: "Camaraderie, Cooperation and Collaboration."

Includes Sea Phase exercises such as:

- Anti-Submarine Warfare (ASW)
- Air Defence drills
- Search and Rescue (SAR) operations
- Conduct of International Fleet Review 2026 and IONS Conclave of Chiefs.
- Platform for defence diplomacy and strategic engagement under India's Act East Policy and MAHASAGAR vision.
- Showcases India's indigenous naval capabilities such as INS Vikrant and Visakhapatnam-class destroyers.

Significance:

- Strengthens India's role as a key maritime security partner in the Indo-Pacific.
- Enhances cooperation with ASEAN and other friendly navies.

Declining Naxalism in India

Context:

The surrender of Thippiri Tirupathi (alias Devuji), a top-ranking Maoist leader with a 1 crore bounty, marks a historic unravelling of the CPI (Maoist) leadership.

- This event, combined with the death of over 500 cadres since 2024, signals the potential endgame for the decades-old insurgency ahead of the government's March 31 deadline.

About Declining Naxalism in India:

What it is?

- Naxalism, or Left-Wing Extremism (LWE), is an armed Maoist insurgency that seeks to overthrow the state through guerrilla warfare. For decades, it was described as India's greatest internal security threat.
- However, it is now in a state of terminal decline, transitioning from a Red Corridor that once spanned ten states to isolated pockets in the Bastar region and the Jharkhand-Bihar border.

Key Statistics & Data:

- Leadership Attrition: The Maoist Politburo is down to one active member (Misir Besra) from a peak of nearly 50 central committee members.
- Neutralization Rate: Security forces killed 285 Maoists in 2025 and have neutralized 22 in the first two months of 2026.
- Total Casualties: More than 500 Maoists have been killed in operations since the beginning of 2024.
- Shrinking Footprint: LWE-affected districts have reduced from over 100 a decade ago to just a few highly active clusters today.
- Loss of Symbols: Over 100 Maoist memorials have been demolished by security forces to erase the insurgency's physical and psychological dominance.

Reasons for the Decline:

- Leadership Crisis: The core Telugu leadership that steered the movement for decades has been decimated by surrenders and deaths.

E.g. The surrender of Devuji and strategist Sonu (2025) has left the rank-and-file without ideological or tactical guidance.

- Aggressive Security Posture: The Greyhounds of Telangana and the COBRA units have shifted from defensive to proactive offensive operations.

E.g. The 2024-25 surge in neutralizations shows security forces are now entering no-go zones in South Bastar.

- Vacuum in Ideology: Modern tribal youth are more interested in digital connectivity and jobs than the Maoist People's War ideology.

E.g. The lack of new, young recruits from Telangana/Andhra has forced the party to rely on lower-rung, less-educated militia.

- Infrastructural Penetration: The construction of roads and mobile towers in remote forests has broken the Maoists' geographical advantage.

E.g. The Road Requirement Plan (RRP) in Sukma and Bijapur has allowed security forces to reach ambush points within minutes rather than days.

- Enhanced Intelligence: Real-time drone surveillance and technical intelligence have made it impossible for large Maoist Platoons to move undetected.

E.g. The pinpoint precision of the May 2025 operation that killed Nambala Keshav Rao highlights superior technical tracking.

Key Initiatives Taken:

- Operation SAMADHAN: A comprehensive strategy focusing on Smart Leadership, Aggressive Strategy, Motivation, Actionable Intelligence, and Dashboard-based KPIs.
- Aspirational Districts Programme: Focused development in 35 LWE-hit districts to improve healthcare, education, and financial inclusion.
- ROSHNI Scheme: A special placement-linked skill development initiative specifically targeting tribal youth in LWE-affected areas.
- Surrender and Rehabilitation Policy: Offering high cash incentives (e.g., 1 crore for top leaders) and land to encourage insurgents to join the mainstream.

Remaining Challenges:

- Hardened Pockets: Small, elusive units continue to hold out in the densest Abujhmad forests where terrain favors the guerrilla.

E.g. Continued sporadic ambushes in Bastar prove that while the army is gone, snipers remain active.

- Inter-State Coordination: Maoists often jump across state borders (e.g., Odisha-Chhattisgarh) to exploit jurisdictional gaps.

E.g. Leaders like Misir Besra remain active by moving between the difficult terrains of Jharkhand and Bihar.

- Governance Deficit: In the most remote hamlets, the delivery of basic services like clean water and healthcare still lags.

E.g. Maoists still exploit local grievances in Sukma regarding land rights and forest produce pricing.

- Overground Fronts: Intellectual support groups and frontal organizations still provide a legal and logistical smokescreen.

E.g. Intelligence reports suggest that even as leaders surrender, urban networks still try to radicalize university students.

- Weaponry and IEDs: The use of sophisticated Improvised Explosive Devices (IEDs) remains a low-cost, high-casualty tool for insurgents.

E.g. The frequent IED blasts targeting security convoys in Dantewada show their ability to disrupt peace despite low manpower.

Way Ahead:

- Sustaining Development: Ensure that the surrender of the insurgency is followed by the arrival of the state through permanent schools and hospitals.
- Tribal Language Outreach: Use local Gondi and Halbi languages for government communication to counter Maoist propaganda.
- Strengthening Local Police: Gradually replace Central Forces (CRPF) with local police who have better human intelligence and cultural ties.
- Focus on Mine Protected Vehicles (MPVs): Invest in better technology to safeguard troops against IEDs during the final stages of the clearance.
- Border Sealing: Use satellite mapping to monitor movements across the Tri-junction borders of Odisha, Chhattisgarh, and Maharashtra.

Conclusion:

The unravelling of the CPI (Maoist) leadership signals that the movement has lost its strategic depth and ideological fire. While lone-wolf attacks may persist, the era of organized Maoist insurgency in India is effectively reaching its twilight. The challenge now lies in ensuring that development reaches the last mile to prevent any future resurgence of extremism.

Operation Demolishment

Context:

Security forces have demolished over 200 Naxal-linked memorials and monuments in Maharashtra and Chhattisgarh under Operation Demolishment, marking a new phase in anti-Naxal operations.

About Operation Demolishment:

What it is?

- Operation Demolishment is a counter-insurgency initiative focused on dismantling memorials and monuments allegedly built by Naxal groups to glorify their leaders and spread extremist ideology.

Launched by:

- Conducted by Indian security forces in coordination with state police and counter-insurgency agencies.
- Implemented mainly in Naxal-affected states like Chhattisgarh and Maharashtra as part of intensified anti-LWE operations.

Key Features:

- Ideological targeting strategy: Focuses on removing symbols and sites used by Naxal groups for propaganda, commemorative gatherings and recruitment influence.
- Integrated counter-insurgency approach: Runs parallel to armed operations against cadres, aiming to weaken both physical networks and psychological support structures.

Significance:

- Weakening extremist influence: By dismantling memorials, authorities aim to reduce ideological attraction among local youth and vulnerable communities.
- Shift toward holistic counter-insurgency: Represents a transition from purely military operations to targeting the narrative and social base sustaining Naxalism.

Military Exercises in News

Context:

India has commenced two major joint military exercises — Exercise DHARMA GUARDIAN (India–Japan) and Exercise VAJRA PRAHAR (India–US) — aimed at strengthening defence cooperation and interoperability.

About Military Exercises in News:

What it is?

- Military exercises are joint training operations conducted between armed forces of two or more countries to enhance interoperability, operational readiness, and strategic cooperation.
- They help participating nations share best practices, improve tactical coordination, and strengthen defence partnerships through realistic combat simulations.

About Exercise DHARMA GUARDIAN:

What it is?

- A bilateral annual military exercise between the Indian Army and the Japan Ground Self-Defense Force (JGSDF).
- The exercise focuses on joint operations in semi-urban environments and improving coordinated military responses.
- Host: Foreign Training Node, Chaubattia, Uttarakhand (India)
- Nations involved: India and Japan

Key features:

- Focus on joint tactical drills including cordon-and-search operations and house intervention.
- Emphasis on modern technology and interoperability, including ISR (Intelligence, Surveillance & Reconnaissance) grid development.
- Training includes heliborne operations and temporary operating base establishment for realistic combat simulation.

About Exercise VAJRA PRAHAR:

What it is?

- A joint Special Forces exercise between India and the United States aimed at enhancing cooperation in special operations.
- Designed to improve joint operational capability in mountainous terrain.
- Host: Special Forces Training School, Bakloh, Himachal Pradesh (India)
- Nations involved: India and United States (US Green Berets)

Key features:

- Focus on special operations tactics, techniques, and procedures (TTPs).
- Intensive joint mission planning and physical conditioning.
- Enhances interoperability, mutual trust, and professional exchange between Special Forces.

INS Krishna

Context:

The Indian Navy launched INS Krishna, the first of three indigenous Cadet Training Ships (CTS), at the L&T Shipyard in Kattupalli, Chennai.

About INS Krishna:

What it is?

- The lead ship of a new class of three Cadet Training Ships (CTS) indigenously designed and built by Larsen & Toubro (L&T). It is a dedicated platform for transitioning officer cadets from theoretical shore training to practical sea operations.

Aim:

- To strengthen the Navy's training infrastructure by providing a dedicated environment for cadets to gain hands-on experience in navigation, seamanship, and ship-handling without diverting frontline warships from active duties.

Key Features:

- Classroom Capacity: Equipped with three state-of-the-art classrooms capable of accommodating 70 cadets each.
- Specialized Facilities: Features a dedicated cadet training bridge, a chart house, and integrated simulators

for "watch-keeping" drills.

- Specifications: A displacement of approximately 4,700 tonnes, a length of 122 meters, a top speed of 20 knots, and an endurance of 60 days at sea.
- Accommodation: Can host 20 officers, 150 sailors, and 200 cadets (including women cadets) simultaneously.
- Defensive Suite: Armed with a 76mm naval gun, two AK-630M Close-In Weapon Systems (CIWS), and 12.7mm stabilized remote-controlled guns.

Significance:

- Aatmanirbhar Bharat: Built under the Buy (Indian-IDDM) category, it showcases India's self-reliance in warship design and private-sector shipbuilding.
- Naval Diplomacy: The ship will be used to train cadets from Friendly Foreign Countries (FFCs), enhancing international maritime cooperation.

11 / DISASTER

16th Finance Commission Recommends Heatwaves and Lightning as National

Context:

The 16th Finance Commission has formally recommended the inclusion of heatwaves and lightning in India's list of nationally notified disasters, a move triggered by record-breaking temperatures and rising fatalities in 2024-25.

About 16th Finance Commission Recommends Heatwaves and Lightning as National Disasters:

What is 16th Finance Commission:

- The Finance Commission is a constitutional body (Article 280) that defines the financial relations between the Centre and the States. The 16th Commission, chaired by Arvind Panagariya, is responsible for recommending the tax-sharing formula and disaster management grants for the period starting April 2026.

Trends & Data: The Rising Threat

Heatwaves:

1. Record Breaking Heat: 2024 was recorded as India's warmest year since 1901, with temperatures in parts of Delhi and Rajasthan crossing 50°C.
2. Frequency: India saw 446 heatwave days across various regions in 2024, the highest since 2000.
3. Warm Nights: A critical trend of extremely hot nights has emerged, preventing human bodies from recovering, as seen in Delhi's record minimum temperature of 2°C in June 2024.

Lightning:

1. Surging Strikes: India witnessed a 400% rise in lightning strikes between 2019 and 2025 due to atmospheric instability.
2. Fatality Leader: Lightning is now the #1 cause of death from natural disasters in India, accounting for over 35% of all disaster-related fatalities in recent years.
3. Deadly Spells: In a single week in April 2025, Bihar alone reported nearly 100 deaths from lightning strikes.

Need for Inclusion:

- Relieving the "10% Trap" for State Finances: States are allowed to use only 10% of SDRF for "local disasters" like heatwaves, which is grossly inadequate for prolonged climate extremes, forcing diversion of development funds.

E.g. Odisha (2024) recorded 140+ suspected heatstroke deaths, yet absence of national disaster status prevented access to NDRF, straining state finances.

- Uniform Financial Protection for Families: National notification standardises ex-gratia compensation, ensuring equal financial relief to all victims' families irrespective of state capacity or administrative efficiency.

E.g. In UP and Bihar (2025), lightning victims faced delayed or uneven payouts due to lack of a centralised relief framework.

- Legal Shield for the Working Class: Declaring heatwaves/lightning as disasters empowers governments to legally enforce work stoppages, rest breaks, and safety norms for informal and outdoor workers.

E.g. During the 2024 General Elections, 33 poll workers died in a single day due to heat exposure, revealing absence of enforceable disaster-grade safeguards.

- Funding Long-Term Infrastructure (Mitigation): Disaster recognition enables use of mitigation funds for permanent solutions like cooling shelters, cool roofs, and lightning protection, reducing future losses.

E.g. Delhi and Ahmedabad (2024) faced power and water failures from urban heat islands, which could have been mitigated through centrally funded heat-resilient infrastructure.

- Enforcing Last-Mile Early Warnings: National disaster status converts early warnings from advisory to mandatory, fixing accountability for district-level dissemination and community outreach.

E.g. Despite IMD alerts, 160+ lightning deaths in April–May 2025 occurred as many farmers never received mobile or field-level warnings, exposing governance gaps.

Initiatives Taken to Counter the Threat:

- Heat Action Plans (HAPs): Now implemented in 23 states, focusing on Cool Roofs, shaded footpaths, and drinking water stations.
- Mitigation Project on Lightning Safety (MPLS): A project by NDMA to install public alert poles and lightning protection in 10 high-risk states.
- Sachet Portal / CAP: A Common Alert Protocol to send real-time geo-targeted SMS alerts for thunderstorms and heatwaves.
- Palm Tree Planting: States like Odisha are planting palm trees in rural areas to act as natural lightning conductors.

Challenges Associated with Inclusion:

- Attribution of Death: Hard to prove if a person died of heat or a pre-existing condition (heart failure, kidney issues).

E.g. In the 2024 heatwave, many hospitalizations were recorded as fever rather than heatstroke.

- Financial Strain on Centre: Adding these would require massive recurring payouts for thousands of deaths annually.

E.g. With nearly 3,000 lightning deaths a year, the compensation bill alone would exceed ₹ 120 crore.

- Widespread Occurrence: Unlike localized cyclones, heatwaves cover half the country, making disaster zones hard to define.

E.g. Northwest India often stays above 45°C for months, making the disaster state semi-permanent.

- Data Accuracy: Rural areas often under-report heat deaths, leading to ghost data and uneven fund distribution.

E.g. Estimates suggest media-reported heat deaths are only a fraction of the actual numbers in rural India.

- Incentive for Misreporting: States might over-attribute natural deaths to heat to claim central compensation.

E.g. Historical trends show a spike in disaster claims whenever a new category is added to the notified list.

Way Ahead:

- Dynamic Thresholds: Set state-specific temperature/humidity (Wet Bulb) thresholds for declaring heatwaves.
- Parametric Insurance: Explore insurance models for farmers and outdoor workers to cover loss of wages during extreme heat.
- Last-Mile Connectivity: Use Aapda Mitra volunteers to ensure lightning warnings reach the person in the field in real-time.
- Urban Cooling: Integrate Cool Roof policies and Green Corridors into the Smart Cities Mission to tackle Heat Islands.
- Scientific Death Audits: Create medical boards to accurately certify heat-related deaths for transparent compensation.

Conclusion:

The 16th Finance Commission's recommendation marks a paradigm shift in India's disaster policy, acknowledging that silent killers like heat and lightning are now deadlier than cyclones. By providing a 1.4 lakh crore fiscal cushion, the government is moving from reactive relief to proactive climate resilience. This inclusion will finally provide a legal and financial safety net for India's most vulnerable populations facing the frontlines of climate change.

Chemical Gas Leak in India

Context:

The recent gas leak at Sainex Met Chem Pharma in Sarigam GIDC, Valsad, has sparked fresh concerns regarding industrial safety in India's chemical hubs after four individuals, including the unit owner, were hospitalized.

About Chemical Gas Leak in India:

What it is?

- A chemical gas leak is the unintentional release of hazardous gaseous substances or vapors into the environment, often resulting from equipment failure, human error, or chemical reactions.
- These leaks can involve toxic gases (e.g., Chlorine, Ammonia), flammable gases (e.g., LPG, Methane), or asphyxiants that displace oxygen.

Chemical Leak Data & Statistics in India

- India's rapid industrialization has led to a high density of chemical units.
- Major Accident Hazard (MAH) Units: India has over 1,861 MAH units spread across 300 districts, according to the National Disaster Management Authority (NDMA).
- Recent Trends: Between 2021 and 2024, India reported an average of 15–20 significant chemical accidents annually, primarily in the Chemical Belt of Gujarat and Maharashtra.
- Casualty Rate: Over the last decade, chemical accidents in India have resulted in approximately 250+ deaths and over 500 major injuries.
- The Gujarat Hub: Gujarat alone accounts for nearly 35% of India's chemical production, making it the most vulnerable state to industrial gas leaks.
- Small-Scale Vulnerability: Nearly 60% of chemical mishaps occur in Small and Medium Enterprises (SMEs) where safety audits are often less rigorous than in large MNCs.

Infamous Chemical Leaks in India:

Incident	Year	Chemical Involved	Impact
Bhopal Gas Tragedy	1984	Methyl Isocyanate (MIC)	World's worst industrial disaster; thousands killed.
Vizag Gas Leak	2020	Styrene Gas	12 deaths; thousands fell ill near LG Polymers plant.
Surat Gas Leak	2022	Hazardous Waste Gas	6 workers died after inhaling fumes from a tanker.
Ludhiana Gas Leak	2023	Hydrogen Sulfide	11 people died due to gas emanating from a sewer line.
Vapi Chemical Blast	2024	Multiple Reactants	Large-scale fire and toxic smoke evacuation in GIDC.

Challenges Associated:

- Enforcement of Safety Audits: Many units bypass regular pressure vessel testing.

E.g. In the 2026 Valsad leak, preliminary reports suggest the reactor's integrity was compromised, yet it was operational.

- Proximity of Residential Areas: Industrial zones (GIDC) are often too close to worker colonies.

E.g. During the 2020 Vizag leak, the gas reached residential villages within minutes because the plant lacked a sufficient green buffer zone.

- Delayed Emergency Response: Lack of real-time gas sensors in older factories.

E.g. In the 2023 Ludhiana incident, authorities could not identify the gas source for hours, delaying the correct medical treatment for victims.

- Informal Labor Risk: Contractual workers are often not trained in Stop-Work authority or PPE use.

E.g. In the 2022 Surat tanker leak, workers were exposed because they were unaware of the hazardous nature of the waste being dumped.

- Aged Infrastructure: Many reactors in India's older GIDCs have exceeded their 20-year safety lifespan.

E.g. Frequent pipe bursts in the Ankleshwar industrial estate (2025) have been attributed to the corrosion of decades-old chemical conduits.

NDMA Guidelines to Handle Chemical Leaks:
- Risk Mapping: Identification of MAH units and creating a Zone of Impact map for surrounding communities.
- Buffer Zones: Maintaining a mandatory No-Construction Zone around hazardous chemical storage.
- Emergency Response Centers (ERCs): Establishing 24/7 centers equipped with specialized Hazmat suits and neutralizing agents (like sodium bicarbonate).
- Mock Drills: Mandating quarterly joint drills between the factory, fire department, and local hospitals.
- Medical Preparedness: Ensuring local hospitals have Antidote Banks specific to the chemicals used in nearby industries.

The Way Ahead:
- Digital Monitoring: Implementation of IoT-based sensors on all reactors to provide real-time pressure alerts to the GPCB.
- Stricter Penalties: Moving beyond closure notices to heavy criminal liability for owners if safety protocols are skipped.
- Hazardous Waste Tracking: Using GPS-enabled tracking for all chemical waste tankers to prevent illegal dumping.
- Public Awareness: Using SMS-based early warning systems to alert residents within a 5km radius the moment a leak is detected.
- Green Chemistry: Incentivizing pharmaceutical units to switch to less volatile solvent alternatives to minimize gas cloud risks.

Conclusion:
The Valsad gas leak is a sobering reminder that industrial growth must not come at the cost of human safety. While the four victims are recovering, the incident underscores the systemic gaps in reactor maintenance and emergency cordoning. Strengthening the oversight of the Gujarat Pollution Control Board and adopting Safety-by-Design is the only way to prevent the next major chemical tragedy.

Forest Fires in North East India

Context:
Massive forest fires have been raging across Arunachal Pradesh and Nagaland for over a week, necessitating high-altitude aerial firefighting by the Indian Air Force (IAF).
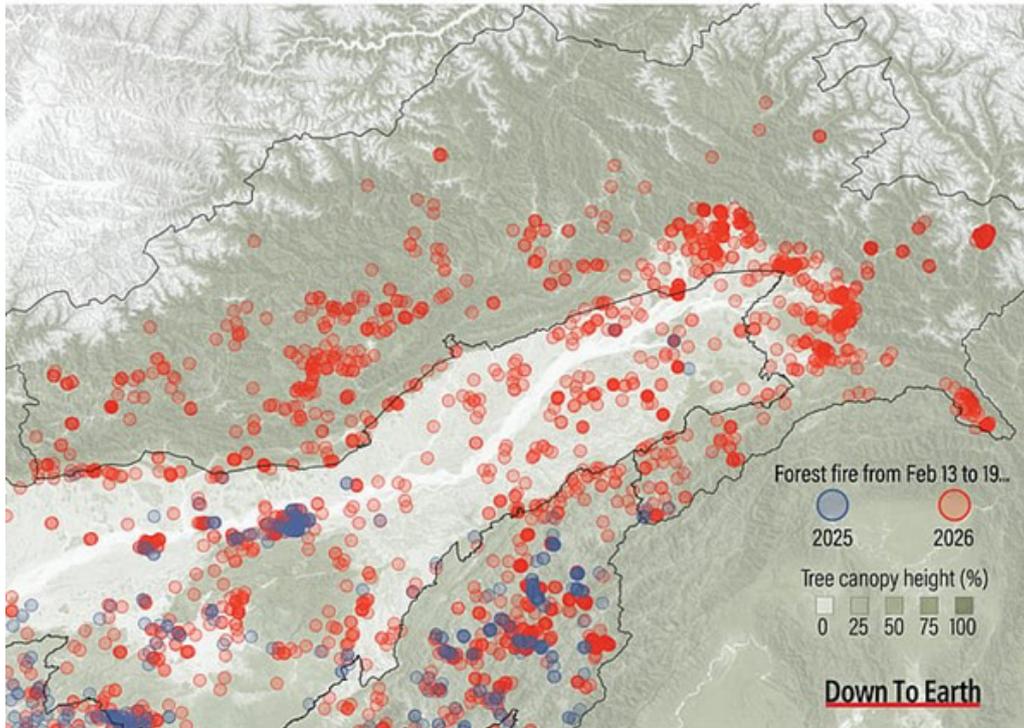
- Operations are concentrated in the Lohit Valley and Dzukou Valley, where helicopters are dropping thousands of litres of water to protect fragile Himalayan ecosystems.

FOREST FIRES RAVAGE ARUNACHAL PRADESH

Arunachal Pradesh has witnessed an almost 200-fold surge in forest fire incidents in the past week, rising from just five cases in 2025 to over 900 in 2026.

Source: FIRMS S-NPP

Forest fire from Feb 13 to 19...

2025   2026

Tree canopy height (%)

0   25   50   75   100

Down To Earth

About Forest Fires in North East India:

What it is?

- Forest fires in the North East are primarily surface fires that feed on dry leaf litter, grass, and forest debris. Unlike the crown fires seen in the West, these spread rapidly across steep slopes during the dry winter months (December–March).
- The region is a global biodiversity hotspot, and such fires threaten rare species, indigenous livelihoods, and the stability of the mountain soil.

Key Data & Facts on Forest Fires:

- Increased Frequency: Arunachal Pradesh recorded nearly 200 times more fire incidents in early 2026 compared to the same period in 2025.
- High-Altitude Operations: The IAF is conducting water-bucketing missions at altitudes exceeding 9,500 feet, a rare and technically challenging feat.
- Water Deployment: Over 1.4 lakh litres of water were dropped by Mi-17 V5 helicopters in the Walong sector alone within a single week.
- Ecological Sensitivity: The North-East forest cluster contributes nearly 36% of India's total forest cover, making it the country's most critical fire hotspot.
- Seasonal Peak: Roughly 80% of annual forest fires in this region occur between March and April, though 2026 saw an unseasonably early peak in February.

Reasons for Forest Fires:

- Dry Weather & Climate Variability: Prolonged dry spells and a lack of winter rain (Western Disturbances) desiccate the forest floor.

E.g. In 2026, a severe moisture deficit in the Lohit Valley turned the undergrowth into a tinderbox, allowing small sparks to grow into massive blazes.

- Shifting Cultivation (Jhum): The traditional slash-and-burn farming practice involves clearing land with fire, which can escape into deep forests.

E.g. Local authorities in Anjaw district identified uncontrolled Jhum fires as a primary trigger for the current Walong inferno.

- Accumulation of Fuel Load: Dry bamboo and pine needles act as highly inflammable fuel.

E.g. In the Dzukou Valley, the accumulation of dry alpine grasses and dwarf rhododendrons provided the fuel load necessary for the fire to reach Japfu Peak.

- Accidental Human Ignition: Negligence by trekkers, poachers, or villagers often sparks fires.

E.g. The recent Dzukou Valley fire was reportedly exacerbated by visitor negligence, leading to the emergency evacuation of 30 trekkers.

- Topographic Wind Patterns: Steep slopes and valley winds create a chimney effect, pushing flames rapidly uphill.

E.g. High-velocity winds near Japfu Peak acted as a bellows, causing the fire to spread across steep ridges despite firefighting efforts.

Initiatives Taken So Far:

- IAF HADR Missions: (IAF): Deployment of Mi-17 V5 helicopters equipped with Bambi Buckets for precision water drops.
- Synergized Response: Coordinated ground operations involving the Indian Army's Spear Corps, State Forest Departments, and local Disaster Management authorities.
- FSI Monitoring: The Forest Survey of India (FSI) provides real-time satellite-based fire alerts via the SNPP-VIIRS system to local forest guards.
- Central Funding: Financial aid under the Forest Fire Prevention and Management (FPM) scheme for creating fire lines and engaging fire watchers.

Challenges Associated with Elimination:

- Inaccessible Terrain: Rugged Himalayan ridges make it impossible for fire trucks to reach hotspots.

E.g. In Anjaw, ground teams took days to reach fire points that were only accessible via aerial reconnaissance.

- Rarefied Air & Poor Visibility: High-altitude firefighting is limited by thin air and smoke-induced low visibility.

E.g. IAF pilots in Nagaland had to draw water from Padumpokhiri Lake amid rarefied air, which reduces helicopter lift and maneuverability.

- Shortage of Water Sources: Finding large water bodies near high-altitude fires is difficult.

E.g. Helicopters in the Dzukou mission have to travel significant distances to Dimapur's lakes, increasing the turnaround time between water drops.

- Communication Gaps: The last-mile delay between satellite detection and ground response often allows fires to spiral out of control.

E.g. By the time a fire point alert reached remote guards in Nagaland, the fire had already transitioned from a surface to a more dangerous slope fire.

- Socio-Cultural Factors: Balancing traditional farming rights with forest conservation remains a sensitive policy challenge.
- E.g. Despite bans, Jhum cultivation continues in Arunachal as it is tied to the food security and culture of indigenous tribes.

Way Ahead:

- Community-Led Fire Brigades: Incentivize local village councils to act as first responders through Joint Forest Management.
- Technology Integration: Use of drones for night-time monitoring and AI-based fire spread modeling to predict movement.
- Infrastructure Development: Construct high-altitude static water tanks (water holes) for easier access during bucket operations.
- Fuel Management: Promote the commercial collection of dry biomass (like pine needles) for bio-fuel, reducing the forest's tinderbox effect.
- Inter-State Coordination: Establish a North-East Fire Task Force for seamless resource sharing between Arunachal, Nagaland, and Manipur.

Conclusion:

The 2026 forest fires in the North East underscore the growing threat of climate-amplified disasters in ecologically fragile zones. While the IAF and Army's intervention has been heroic, the long-term solution lies in bridging the gap between traditional practices and modern fire management. Protecting these lungs of the East is essential for India's climate commitments and regional environmental security.

EXCEL

CIVILS ACADEMY

EMPOWERING FUTURE LEADERS