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CREATING CIVIL SERVANTS FOR THE NATION

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Other topics
- G7 Summit
- Status of Renewables in India
- World Investment Report 2025
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From East to All India Ranks
We Dominate UPSC CSE 2024!

Congratulation

Our All India Toppers

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Heartiest Congratulations to our
CHAMPIONS FROM WEST BENGAL & ODISHA

77 Selections in UPSC CSE 2024
Selections are from various Programs including IGP

HARSITA AGARWAL	URMI SINHA	AMIT MEENA	VIVEK SHUKLA	AASHISH KUMAR	RAUNAK SHARMA	RISHITA DAS	ABHIJEET MALLICK
AIR 163 (IGP)	AIR 170 (IGP)	AIR 320 (IGP)	AIR 355 (IGP)	AIR 489 (IGP)	AIR 659 (IGP)	AIR 840 (IGP)	AIR 979 (IGP)

Ritika Rath — AIR 48

Urmi Sinha — AIR 170

Rajdeep Ghosh — AIR 789

Abhijeet Mallick — AIR 979

1. POLITY & GOVERNANCE

1.1   IMPEACHMENT OF JUDGES

Context

- The Union government has announced that a motion to impeach Justice Yashwant Varma will be introduced in the Lok Sabha.

Impeachment of a Judge in India

- Impeachment is a parliamentary process allowing the removal of a Supreme Court or High Court judge.
- It **serves as a "constitutional safety valve"** to ensure judicial accountability while protecting independence through checks and balances.

Grounds for Impeachment

- A judge can be **removed only on two specific grounds:** "proved misbehaviour" (actions against judicial dignity or ethics, such as corruption or abuse of power, which must be legally established) or "incapacity" (inability to perform duties due to a physical or mental condition).

Governing Law and Constitutional Provisions

- The procedure for judicial removal is detailed in the Judges (Inquiry) Act, 1968.
- The **Constitution itself, while not using the term 'impeachment'**, refers to these proceedings under Article 124 (for Supreme Court judges) and Article 218 (for High Court judges).
    - It states that a **judge can be removed only by a presidential order,** based on a motion passed by both houses of Parliament.

Impeachment Process in Parliament

1. **Initiation**: The process begins with a motion signed by at least 100 Lok Sabha members or 50 Rajya Sabha members.
2. **Admission and Inquiry Committee**: The Presiding Officer (Speaker in Lok Sabha, Chairman in Rajya Sabha) decides whether to admit the motion.
    - If admitted, a **three-member Inquiry Committee is formed**, consisting of a Supreme Court Judge (Chief Justice or senior judge), a High Court Chief Justice, and a distinguished jurist.
3. **Investigation**: The Inquiry Committee thoroughly investigates the allegations of proved misbehaviour or incapacity.
    - The accused judge is given opportunities to defend themselves, present their case, cross-examine witnesses, and provide evidence.
4. **Report**: After investigation, the committee prepares a detailed report stating its findings on "proved misbehaviour" or "incapacity."
    - This **report is submitted to the President, Prime Minister, and the Presiding Officer** of the originating House.
5. **Parliamentary Vote**: If the report finds the judge guilty, the motion proceeds to a vote in both Houses of Parliament.
    - It must pass by a "special majority," meaning more than half of the total membership of each House, and at least two-thirds of the members present and voting in that House, must vote in favor.
6. **Presidential Order**: If both Houses pass the motion with the special majority, they present an address to the President of India, who then issues the order for the judge's removal.

NOTE: Since independence, No judge has been impeached.

Why is impeachment rare?
- **High Bar for Special Majority**: Achieving the "special majority" required in both Houses of Parliament is extremely difficult. This requires broad cross-party support, which is often hard to secure.
- **Respect for Judicial Independence**: Members of Parliament are often hesitant to initiate or vote for impeachment unless there are exceptionally clear and compelling grounds, to avoid the appearance of interfering with judicial functions.
- **Voluntary Resignations**: When a judge faces serious allegations and an impeachment process begins, they sometimes choose to resign voluntarily before the process can be concluded, thereby ending the impeachment proceedings.

1.2   WHAT HAPPENS WHEN THE VICE-PRESIDENT RESIGNS MID-TERM

Context
- The resignation of Vice-President Jagdeep Dhankhar has created a rare mid-term vacancy in India's second-highest constitutional office.

How the Vice-President Resigns and Immediate Implications
- The Vice-President resigns by submitting a letter to the President, as mentioned in Article 67(a) of the Constitution.
- The resignation takes effect immediately upon the President's receipt of the letter and does not require parliamentary approval.
- As the ex-officio Chairman of the Rajya Sabha, the Vice-President's resignation also creates a temporary vacancy in the upper house.
- The **Constitution does not provide for an "acting" Vice-President.**
- When the Chairman's office is empty, or when the Vice-President acts as President or is absent from a sitting, the Deputy Chairman handles the Rajya Sabha's duties, possessing all the powers of the Chairman in such situations.

> **Since Independence, 3 Vice-President VP resigned => V.V. Giri (1969) and R. Venkataraman (1987) resigned to contest presidential elections, while Jagdeep Dhankhar (2025) resigned due to personal health concerns.**

Election of a New Vice-President
- Unlike the President's post, which must be filled within six months, the **Constitution does not set a strict deadline for a Vice-Presidential vacancy**, only requiring the election to happen "as soon as possible."
- The Election Commission of India (ECI) is responsible for announcing the schedule and conducting the election.
  - It aims to complete the process within 60 days of the outgoing Vice-President's term expiry.
  - The election conducted under the Presidential and Vice-Presidential Elections Act, 1952.
- **Eligibility**: Candidates must be Indian citizens, at least 35 years old, qualified to be Rajya Sabha members, and not hold any "office of profit" under Union or State governments.
- **Nomination**: A candidate needs 20 Members of Parliament (MPs) to propose their name and another 20 MPs to second it, along with a security deposit of ₹15,000.
- **Electoral College**: The Vice-President is elected by an Electoral College comprising members from both the Lok Sabha and Rajya Sabha, including both elected and nominated members.
- **Voting Method**: A secret ballot using "proportional representation with a single transferable vote," where MPs rank candidates by preference.

- **Tenure:** A newly elected Vice-President serves a full five-year term from their inauguration and continues until a successor takes office.
- **Oath:** Administered by the President or a designated person (Article 69), requires them to uphold the Constitution and faithfully perform their duties.
- **Removal:** The Vice-President can be removed by a Rajya Sabha resolution passed by an "effective majority," followed by the Lok Sabha's agreement with a "simple majority." A 14-day notice must precede such a resolution.

1.3   SAFE HARBOUR FOR ONLINE PLATFORMS

Context
- The Union Government has defended its decision in the Karnataka High Court to lower "safe harbour" protections for Internet intermediaries and social media platforms and to remove content through the Sahyog Portal.

What is "Safe Harbour" for Online Platforms?
- Safe harbour is a **legal protection granted to online companies** (like social media sites, video-sharing platforms, and other user-generated content websites), shielding them from legal responsibility for all content posted by their users, even if it is illegal or harmful.
- **Section 79 of the Information Technology (IT) Act, 2000, provides this safe harbour protection to online intermediaries**.
  - It states that an **online platform acting as a neutral middleman—merely providing a means for communication without creating or modifying content—is not liable for user-posted content.**
  - However, this protection is conditional: the platform must act neutrally, exercise "due diligence," and promptly remove or block access to unlawful content upon government or court notification, or when it gains "actual knowledge" of such content.

In the *Shreya Singhal vs Union of India* **(2015) case**, the Supreme Court clarified that online platforms are responsible for unlawful content only if they gain "actual knowledge" and fail to act quickly. This case also struck down Section 66A of the IT Act.

Why is the Government Reconsidering Safe Harbour?
- **Accountability Gap**: Platforms profit from engagement but avoid responsibility for harmful content (misinformation, hate speech, incitement to violence).
- **Algorithmic Amplification**: Algorithms can rapidly spread harmful content, leading to real-world consequences like mob violence or election interference.
- **Lack of Transparency**: Unclear how platforms moderate content or how their algorithms operate.
- **Anonymity**: Allows users to post anonymously or with fake accounts, potentially encouraging extreme speech.
- **Global Trends**: Many countries (e.g., EU's Digital Services Act, US debates on Section 230) are reviewing intermediary liability laws.

Indian Government Actions and Proposals
- **IT (Intermediary Guidelines and Digital Media Ethics Code) Rules 2021**:
  - Imposed stricter "due diligence" requirements
  - Mandating removal of unlawful content within specific timelines (e.g., 24 hours for nudity).
  - Establishment of grievance redressal mechanisms
  - For "significant social media intermediaries" (over 5 million users), appointment of compliance, nodal contact, and grievance officers based in India.
  - Created a code of ethics for digital news and OTT platforms.

- **Sahyog Portal**: Used by the Home Ministry's Indian Cyber Crime Coordination Centre (I4C) to facilitate content blocking orders.
- **Discussions on a New Digital India Act (DIA)**: This proposed law may define different online platform types, potentially introduce a "graded liability regime" based on a platform's size and amplification, and aim to define "active curation" to clarify when a platform acts more like a publisher.

Challenges for Balancing Platform Accountability and Free Speech

- **Balancing Act**: Ensuring platform responsibility without hindering innovation, limiting free speech, or overburdening smaller platforms.
- **Content Moderation Complexity**: The vast volume of online content makes human moderation impossible, and AI reliance raises ethical concerns about bias and errors.
- **Global Harmonization**: Varying international laws create confusion and operational inconsistencies for global platforms.

Way Forward

- **Graded Liability Regime**: Differentiating responsibility levels based on platform size, influence, and content handling.

- **Stronger Due Diligence**: Mandating clearer content moderation policies, improved user complaint mechanisms, and proactive measures against specific harmful content.
- **Code of Ethics/Self-Regulation**: Encourage industry bodies to develop a code of ethics that promotes responsible content creation, moderation, and platform governance.
  - The government can facilitate this self-regulatory process by offering guidance, providing resources, and ensuring compliance through a balanced oversight mechanism.
- **Focus on Transparency**: Require platforms to publish regular, detailed transparency reports on content moderation activities, including the volume and nature of content removed, reasons for removal, and the number of user complaints and appeals.
- **Adopt best Global Practices**: Examine successful regulatory frameworks and best practices adopted by other nations, such as the EU's Digital Services Act (DSA).
  - Modify and adapt these global best practices to address India's unique socio-cultural and linguistic diversity, ensuring that regulations are effective and culturally sensitive.

1.4   SPECIAL INTENSIVE REVISION

Context

- The first phase of the Bihar Special Intensive Revision (SIR) exercise has been completed, leading to the exclusion of 65.2 lakh voters.

What is Special Intensive Revision (SIR) of Electoral Rolls?

- It is conducted by the Election Commission of India (ECI) to update electoral rolls. In Bihar, the last revision was conducted in 2003.
- During SIR, Booth Level Officers (BLOs) conduct door-to-door surveys to verify and update voter details.

Legal Grounds for Voter List Revision

- **Constitutional Provisions**: Article 324 empowers the ECI to "supervise, direct, and control" the preparation of electoral rolls and the conduct of elections.
  - Article 326 ensures voting rights for every eligible adult citizen aged 18 and above (reduced from 21 by the 61st Amendment).
- **Representation of the People Act (RPA), 1950**: Deals with electoral roll preparation and election management.
  - Section 21 empowers the ECI to prepare and revise electoral rolls, including "special revision" (authority for SIR).

- o Section 16 states non-citizens cannot be on the rolls, and Section 19 sets registration criteria.
- **Registration of Electors Rules, 1960**: Provides detailed procedures for preparing and revising electoral rolls.

Process of SIR
1. **Pre-revision Activities**: Involve training officials, house-to-house verification, standardization of addresses, and rationalization of polling stations.
2. **Publication of Draft Electoral Rolls**: For public inspection.
3. **Claims and Objections Period**: e.g, In Bihar from August 1st to September 1st, 2025
   - Form 6: For inclusion (missing names, new registrations).
   - Form 7: For deletion (ineligible persons like deceased, non-citizens, duplicates).
   - Form 8: For correcting errors in existing entries.
4. **Inquiry by Electoral Registration Officer (ERO)**: To verify claims.
5. **Publication of Final Electoral Roll**: After resolving all claims and objections.

Concerns Related to SIR
Risk of Disenfranchisement:
- **Demanding Specific/Old Documents**: Such as birth certificates from before 1987 or parental birth certificates, which many marginalized communities, informal workers, or those born in rural areas may lack.

- **Burden of Proof Shifted**: Citizens are often required to prove eligibility, rather than the state proving ineligibility.
- **Identification Issues**: Stemming from old records, poor quality photographs, or incorrect photo uploads. The ECI has stated that documents like Aadhaar, ration cards, or existing Voter IDs are not accepted as primary proof for citizenship or birth date.
- **Migrant Workers**: Difficulties in updating details or proving residence can lead to their exclusion. Migrant workers are often unwilling or find it hard to register in temporary workplaces, preferring to retain voting rights in their ancestral homes.

Way Forward to Make SIR More Effective and Inclusive
- **Accept Accessible Documents**: The ECI should accept widely accessible and verifiable identification documents like Aadhaar, ration cards, and existing voter IDs for residency verification.
- **Expand Aadhaar-Voter ID Linking**: With strong privacy safeguards, to automatically delete duplicate voter IDs without lengthy processes.
- **Improve BLO Training and Resources**: Provide better training, clear instructions, and sufficient resources (e.g., modern digital devices, better pay) to Booth Level Officers.
- **Improve Real-Time Data Sharing**: Facilitate data exchange between civil registration systems (birth/death records) and the ECI for prompt voter list updates.

1.5 CAN THE SUPREME COURT HALT AN ACT PASSED BY A STATE?

Context
- The Supreme Court in the Nandini Sundar and Ors. versus State of Chhattisgarh case held that the State of Chhattisgarh's enactment of the Chhattisgarh Auxiliary Armed Police Forces Act, 2011, subsequent to a Supreme Court order, did not constitute an act of contempt of court.

About the Nandini Sundar Case
- **Core Issue**: Chhattisgarh employed inadequately paid and trained Special Police Officers (SPOs) to combat Maoist activities.
- **Supreme Court's July 2011 Order:** The Court issued specific directives:
  - o The State government must cease using SPOs in any activities directly or indirectly

aimed at controlling or eliminating Maoist activities.

- o The State must take all measures to prevent the operation of any group, including Salwa Judum and Koya Commandos.
- o The Court concluded that appointing inadequately paid and ill-trained SPOs for checking Maoism violated Article 14 (Equality before Law) and Article 21 (Protection of Life and Personal Liberty) of the Constitution.
- Following the Supreme Court's order, the state enacted the Chhattisgarh Auxiliary Armed Police Forces Act, 2011.

Chhattisgarh Auxiliary Armed Police Forces Act 2011

- It states that an auxiliary force will be formed to 'aid and assist the security forces' in maintaining public order and combating Maoist/Naxal violence and insurgency.
- Members of the auxiliary force will 'not be deployed in the front-line positions of an operation' and will always work under the supervision of security forces.
- It made compulsory training for a minimum period of six months.

Contempt of Court Petition

- A contempt petition was filed, arguing that the Chhattisgarh Auxiliary Armed Police Forces Act, 2011, was not in consonance with the

Supreme Court's order and therefore amounted to contempt of Court.

Supreme Court's Rejection of Contempt Petition

- **Legislative Power and Separation of Powers:** The Court stated that every State Legislature possesses plenary powers to pass an enactment, provided it is not declared ultra vires (beyond the powers) of the Constitution.
- **No Contempt for Enactment:** The Court clarified that any law passed by Parliament or a State Legislature cannot be considered an act of contempt.
  - o A legislature has the power to pass a law to remove the basis of a judgment or to validate a law that a Constitutional Court has struck down. This principle is fundamental to the doctrine of separation of powers in a constitutional democracy.
- **Grounds for Challenging Legislation:** The Court emphasized that a piece of legislation can only be challenged on two grounds:
  - o Legislative Competence (whether the legislature has the authority to make that law)
  - o Constitutional Validity (whether the law violates any part of the Constitution).
- Quoting *Indian Aluminium Co. versus State of Kerala (1996)*, the Supreme Court restated that courts must maintain the delicate balance designed by the Constitution among the three sovereign functionaries (Legislature, Executive, and Judiciary).

1.6   ECI DE-LISTING POLITICAL PARTIES

Context

- Election Commission initiates delisting of 345 inactive political parties for failing to contest elections in 6 years.

Registered Unrecognised Political Parties (RUPPs)

- RUPPs are **political associations officially registered** with the Election Commission of

India under Section 29A of the Representation of the People Act (RP Act), 1951.

- They differ from "recognised" National or State political parties, which attain their status based on specific electoral performance criteria, such as securing a defined percentage of votes or seats in general or state assembly elections. RUPPs have not met these electoral thresholds.
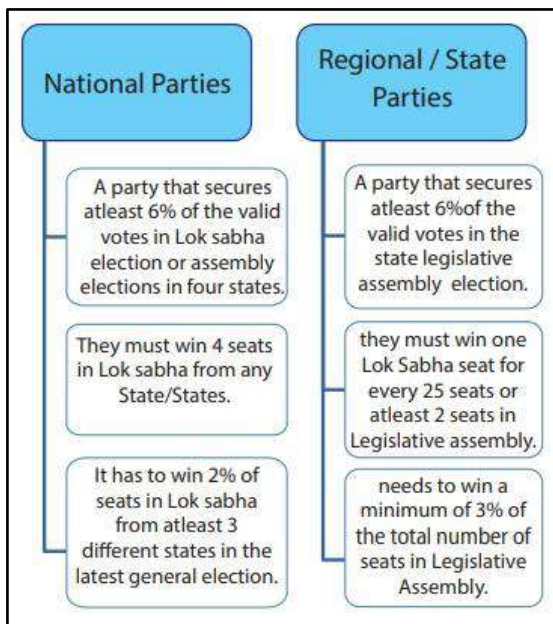
RUPPs avail certain privileges

- **Tax Exemption:** They are eligible for 100% tax exemption on their income under the Income Tax Act, 1961.
- **Common Poll Symbols:** They can apply for common poll symbols from a list of free symbols provided by the ECI for their candidates in an election.
- **Star Campaigners:** They are allowed to nominate up to 20 'star campaigners' for election campaigns, whose travel expenses do not count towards the candidate's expenditure.

Statutory Requirements for RUPPs

To maintain their registered status and associated benefits, RUPPs are legally obligated to fulfill specific requirements:

- Periodically participate in elections.
- Submit annual audit accounts to the ECI.
- File annual contribution reports, detailing all donations received.
- Disclose donations exceeding ₹20,000.
- Ensure no individual donation above ₹2,000 is accepted in cash.

Reasons Behind the ECI's Delisting Drive

- **Non-Contesting of Elections:** Many delisted parties have failed to contest even a single election in the last six years, indicating their non-functional status.
- **Lack of Physical Offices:** Investigations revealed that many parties do not maintain physical offices at their registered addresses, casting doubt on their legitimate existence.
- **Non-Compliance with Statutory Filings:** Parties consistently failed to submit mandatory financial disclosures, including audit accounts and annual contribution reports, raising serious transparency issues.
- **Misuse of Tax Exemptions:** Numerous RUPPs availed 100% tax exemptions despite their non-compliance, creating potential avenues for tax evasion.
- **Shell Entities and Money Laundering:** Concerns exist that some RUPPs operate as shell entities, engaging in illicit financial activities, including money laundering.
- **Selling Nominations:** Some RUPPs have reportedly engaged in selling nominations, fielding dummy candidates who withdraw their nominations after receiving payments from major political parties.

Way Forward for Electoral Reforms

- **Empowering ECI for De-registration:** The Law Commission of India, in its 255th report (2015), recommended empowering the ECI to de-register political parties that fail to contest elections for 10 consecutive years.
- **Mandating Inner-Party Democracy:** Many RUPPs, and even some recognized parties, operate without periodic internal elections or transparent leadership appointments, often leading to dynastic control.
- **Independent Auditing of Party Finances:** To enhance financial transparency and curb illegal funding, policy recommendations include establishing independent auditing of party finances, potentially under a public accounting body.
- **Transparency in Donations:** While rules for donations exist, stronger mechanisms for real-time disclosure and verification of donation sources are necessary to ensure accountability.

1.7   SHORT ARTICLES

Who Are Qualified As 'Ordinarily Resident'?

Context

- The Election Commission of India (EC) has initiated a Special Intensive Revision (SIR) of the electoral rolls in Bihar, prompting discussions about the concept of being "ordinarily resident" for voting purposes.

About "Ordinarily Resident" for Voting

- For an individual to be included in a constituency's voter list, they must be considered "ordinarily resident" there, as per Section 19 of the Representation of the People Act, 1950 (RP Act).
- The Gauhati High Court, in the *Manmohan Singh case* (1999), interpreted "ordinarily resident" as being a "habitual resident" with a permanent, not temporary or casual, stay and an intention to live there permanently.

Section 20 of the RP Act elaborates the concept of "Ordinarily Resident"

- **Mere property ownership does not confer "ordinarily resident" status**; continuous residence is required.
- Temporary absence from home does not alter one's "ordinarily resident" status.
- Spouses of individuals in special categories also retain their "ordinarily resident" status in the same home constituency.
- **Special categories**: Section 20 identifies specific groups who are considered "ordinarily resident" in a constituency despite living elsewhere for work, ensuring their voting rights are maintained. These include:
  - Members of the armed forces of the Union (e.g., a soldier from Uttar Pradesh posted in Ladakh votes in their UP village).
  - Armed police force of a State serving outside that State (e.g., a Bihar police officer on special duty in Jharkhand votes in their Bihar constituency).
  - Individuals employed by the Government of India in a post outside India (e.g., an Indian diplomat in Washington D.C. votes in their home constituency in India).

> **Are Non-Resident Indians (NRIs) Allowed to Vote?**
> Section 20A, added to the RP Act in 2010, allows NRIs to register and vote in the constituency corresponding to their passport address. They must be physically present at their registered polling booth to cast their vote.

Swachh Survekshan 2025

Context

- The President of India presented the Swachh Survekshan 2024-25 Awards at a national ceremony organized by the Ministry of Housing and Urban Affairs (MoHUA).

What is Swachh Survekshan?

- It is an **annual survey** of cleanliness, hygiene, and sanitation across India.
- **Launched in 2016** with 73 Urban Local Bodies (ULBs), it has expanded to cover over 4,500 ULBs in 2024–25.
- The Ministry of Housing and Urban Affairs (MoHUA) initiated it as a key component of the Swachh Bharat Mission (Urban).
- It evaluates cities based on three main pillars:
  - **Service Level Progress**: Performance in open defecation-free status, proper segregated waste collection, waste processing, and sustainable sanitation.
  - **Citizen's Feedback**: Assessment based on direct feedback and engagement with citizens.
  - **Certifications**: Performance under MoHUA's certification protocols, such as Star Rating for Garbage Free Cities (GFC) and ODF/ODF+/ODF++/Water+ certifications.

Key Highlights of Swachh Survekshan 2024-25 Awards

- The awards ceremony **theme was "Reduce, Reuse, Recycle,"** with a total of 78 awards presented across four categories.

- **Super Swachh League (SSL) Cities**: Introduced to ensure fair competition and acknowledge consistently high-performing cities (like Indore, which ranked 1st for seven consecutive years).
  - These cities were excluded from regular rankings to allow emerging cities better chances at top positions.
- **Top 3 Clean Cities in 5 Population Categories**: For the first time, cities were classified into five population-based categories for fairer comparisons.

- **Special Category Awards**:
  - Prayagraj received an award for its excellent waste management during the Mahakumbh 2025 and was also recognized as the **Cleanest Ganga Town**.
  - **Safaimitra Surakshit Shehar**: Visakhapatnam, Jabalpur, and Gorakhpur.
  - **Cantonment Board**: Secunderabad Cantonment.
- **State Level Awards**: 35 cities across 33 States/UTs were recognized.

1.8 SNIPPETS

Topics	Details
Kashi Declaration	• The Youth Spiritual Summit concluded with the adoption of the Kashi Declaration. • Youth Spiritual Summit organized by the Ministry of Youth Affairs and Sports in Varanasi, to achieve a drug-free society by 2047. • The **Kashi Declaration outlines a multi-dimensional and collaborative approach to drug de-addiction**, advocating for a "whole-of-government and whole-of-society approach."
Central Board Of Direct Taxes (Cbdt)	• The Central Board of Direct Taxes (CBDT) plans to ramp up efforts to curb tax evasion by leveraging advanced data analytics and artificial intelligence. • Central Board of Direct Taxes (CBDT) **works under the Department of Revenue, Ministry of Finance.** • It was set up in 1964, under the Central Board of Revenue Act of 1963. • It manages and collects direct taxes like income tax and corporate tax, through the Income Tax Department.
Atomic Energy Regulatory Board (Aerb)	• The Atomic Energy Regulatory Board (AERB) granted a license for two indigenously developed Pressurised Heavy Water Reactors (PHWRs) at the Kakrapar Atomic Power Station (KAPS) in Gujarat. • **Origin:** The President of India constituted the AERB in 1983, under the Atomic Energy Act, 1962. • **Core Mission:** Ensures that the use of ionizing radiation and nuclear energy poses no risk to public health and the environment. • **Legal Authority:** The Board also administers provisions of the Factories Act, 1948, specifically concerning industrial safety for units operating under the Department of Atomic Energy (DAE). • An AERB license is a mandatory certification for any entity involved in the use of ionizing radiation and nuclear energy. • **Headquarters:** Mumbai • AERB reports to the **Atomic Energy Commission, which functions under the Prime Minister.**
Parakh Rashtriya	• The 2025 PARAKH Rashtriya Sarvekshan (RS) survey indicates learning deficits

Sarvekshan (Rs) Survey 2025	among students. • **Formerly known as the National Achievement Survey (NAS)**, this survey evaluates learning outcomes nationwide. • The Performance Assessment, Review, and Analysis of Knowledge for Holistic Development (PARAKH), an **independent organization under the National Council of Educational Research and Training (NCERT),** conducts the survey. • The 2025 PARAKH RS identified learning deficits among students in Grades 3, 6, and 9. • **Top Performers:** Punjab, Himachal Pradesh, Kerala, Dadra Nagar Haveli and Daman & Diu, and Chandigarh emerged as the leading states and union territories in school education performance.
Bharat Initiative	• The Indian Institute of Science (IISc), Bengaluru, has launched BHARAT (Biomarkers of Healthy Aging, Resilience, Adversity, and Transitions) initiative. • The BHARAT initiative, part of the Longevity India Program at IISc, aims to **establish baseline health parameters for the Indian population.** • The study maps the physiological, molecular, and environmental indicators that drive aging in the Indian population. • Ageing is a complex biological process influenced by molecular and cellular interactions, as well as environmental, lifestyle, and socioeconomic factors. **An individual's chronological age does not truly reflect their biological age or how old their body actually is.**

1.9   ADDITIONAL TOPICS FOR READING FROM IASGYAN WEBSITE

Topic Name	Date
SC/ST ACT: PROVISIONS, AMENDMENTS & LATEST COURT RULINGS	**30th JULY 2025**
LEGAL STATUS OF RIGHT TO VOTE IN INDIA	**28th JULY 2025**
NATIONAL SPORTS GOVERNANCE BILL 2025	**23rd JULY 2025**
SUPREME COURT CHALLENGES PRESIDENTIAL POWERS	**23rd JULY 2025**
GENDER GAP IN STEM FIELDS IN INDIA	**18th JULY 2025**
PROTECTION OF CIVIL RIGHTS ACT (PCR ACT)	**17th JULY 2025**
MIZORAM REFUGEE CRISIS	**14th JULY 2025**
HOW SC HAS ALWAYS UPHELD PREAMBLE AMENDMENT	**1th JULY 2025**

2. INTERNATIONAL RELATIONS

2.1 CHINESE DAM ON BRAHMAPUTRA RIVER

Context

- China has started constructing a dam on the Brahmaputra River, raising concerns in India and Bangladesh regarding the potential impact on the river's flow.

Brahmaputra River

- It is a trans-boundary river flowing through Southwestern China (where it's known as Yarlung Tsangpo), Northeastern India (Brahmaputra or Luit in Assamese, Siang/Dihang in Arunachali), and Bangladesh (Jamuna).
- It is the **9th largest river globally by discharge and the 15th longest.**
- **Originating in the Manasarovar Lake region near Mount Kailash in Tibet**, it enters India in Arunachal Pradesh, flows through the Assam Valley, and merges with the Ganges (Padma) in Bangladesh, then **emptying into the Bay of Bengal as the Meghna.**

China's Projects

- China is constructing the **YarlungZangbo Hydropower Complex**, a series of dams with a 60,000 MW capacity, at the "Great Bend" in Medog county.
- China asserts these projects will generate clean energy, stimulate the Tibetan economy, and help achieve carbon neutrality by 2060.

Geopolitical Concern For India

- Experts believe **these infrastructure projects provide China a strategic advantage** in the Himalayas, aligning with its Belt and Road Initiative.
- By developing infrastructure in disputed border areas, **China is strengthening its territorial claims,** for example by increasing its population near the disputed border with Arunachal Pradesh.

Impact on India's Water Security

- India's concern that China's dams will **reduce downstream water flow,** mainly during dry seasons, affecting agriculture and livelihoods in India and Bangladesh.
- The "**Water Bomb**" risk refers to the potential danger of sudden or intentional water releases from upstream Chinese dams, which could cause massive floods in downstream Indian regions.
- **China's limited disclosure of technical specifications, operational plans, or emergency systems** for its dams makes it difficult for India to assess risks and prepare.

Ecological and Environmental Concerns

- Large dams can **disrupt the natural flow of nutrient-rich sediment vital for agriculture.**
- They can also alter water temperature and quality, risking aquatic biodiversity.
- Building massive dams in the Himalayan region also carries high risks of dam breaches, landslides, and other geological hazards.

India's Domestic Response

- India has proposed the **Upper Siang Project, an 11.5 gigawatt (GW) dam in Arunachal Pradesh**, intended to act as a "buffer" against potential Chinese actions upstream and to generate hydropower.
- India **engages with other downstream countrie**s like Bhutan, Bangladesh, and Myanmar to establish coordinated protocols and warning systems for shared rivers.

Way Forward for India

- **Push for formal water-sharing protocols** with China to ensure transparency and consistent data exchange.
- **Strengthen trans-boundary river cooperation** with countries like Bhutan and Bangladesh to build collective strength and shared warning systems.

- **Invest in climate-resilient infrastructure**, such as reservoirs on tributaries, to better manage water resources.

- Maintain continuous, open dialogue with China to resolve disputes and promote mutual understanding.

2.2   INDIA-MALDIVES RELATIONS

Context

- The Prime Minister attended the Maldives' Independence Day celebrations as the guest of honor.

Outcome of India PM's Recent Visit to Maldives

- **Financial Assistance**: India has provided Lines of Credit (LoC) for various infrastructure projects, including port development, road construction, and housing (e.g., 3,300 housing units in Hulhumale, roads and drainage in Addu City)
  - India extended a Line of Credit of Rs 4,850 crore to the Maldives for infrastructure development, **first time such credit has been extended in Indian Rupees.**
- **Debt Relief**: India reduced the Maldives' annual debt repayment obligations by 40%, from $51 million to $29 million.
- **Health**: India supports the Maldives with medical supplies, healthcare infrastructure, and gifting equipment like Aarogya Maitri Health Cube sets, which are portable medical facilities for emergencies.
- **Connectivity**: India is assisting in enabling UPI (Unified Payments Interface) in the Maldives and discussions for a local currency settlement system to facilitate trade.

Why the Maldives is Strategically Important to India

- **Geopolitical Significance**: The Maldives' location in the Indian Ocean provides India with strategic depth in a region vital for global trade and energy security.
  - **Sea Lanes of Communication (SLOCs) connecting East Asia, the Middle East, and Africa** pass through these waters, with **about 50% of India's foreign trade and 80% of its energy imports utilizing these routes.**
- **SAGAR Vision**: The Maldives is a key partner in India's "Security and Growth for All in the Region" (SAGAR) vision, which emphasizes cooperative maritime security and economic development in the Indian Ocean.
- **"Neighbourhood First" Policy**: The Maldives is a crucial pillar of India's "Neighbourhood First" policy, which prioritizes robust engagement with immediate neighbors.
- **Countering External Influence**: Maintaining strong ties helps India address concerns about increasing influence from other external powers in its immediate vicinity.

Challenges in India-Maldives Relations

- **"India Out" Campaign**: President Mohamed Muizzu's rise to power in November 2023 was partly driven by an "India Out" campaign, demanding the withdrawal of Indian military personnel.
- **Geopolitical Competition**: The Indian Ocean has become a theatre of increased geopolitical competition, with various global powers seeking influence, which poses challenges to India's traditional role.
- **External Influence (China)**: China's growing presence and investments in the Indian Ocean, mainly through its Belt and Road Initiative (BRI), create competition for influence.

Way Forward for India-Maldives Relations

- **Sustained Diplomatic Engagement**: Regular high-level visits and diplomatic interactions are crucial for bridging gaps and building trust.
- **Deepening Economic Ties**: Explore new areas for trade beyond traditional goods and encourage Indian private sector investment in

sustainable tourism, fisheries, and renewable energy in the Maldives.
- **Climate Diplomacy:** India can offer expertise and support in areas such as coastal protection, water management, and renewable energy adoption.
- **Security Cooperation:** India should support the Maldives in strengthening its defense capabilities and enhancing maritime security, including through joint efforts under the Colombo Security Conclave.

- **Counter China:** Offer better terms of credit and engage in joint implementation of development projects to counter Chinese influence.
- **Enhance Multilateral Cooperation:** Collaborate within frameworks like the Indian Ocean Rim Association (IORA) and the Colombo Security Conclave to address regional issues such as maritime security, and sustainable ocean economy.

2.3   CRITICAL MINERAL CLUBS

Context
- The foreign ministers of the Quad countries—India, Japan, Australia, and the US—have announced the launch of the Critical Minerals Initiative, or "clubs," to collaboratively secure and diversify supply chains for these essential resources.

What are Critical Minerals?
- They are essential raw materials to modern technology (e.g., lithium for batteries, rare earths for magnets).
- They **face a high risk of supply chain disruption** because their mining and processing are heavily concentrated in a few countries, mainly China.
  - China handles 80% of the world's processing of critical minerals.
  - China produces about 60% of the world's rare earth elements and controls 90% of processing.
- The **concentration creates geopolitical and economic vulnerabilities for importing nations like India,** which needs these minerals to build electric vehicles (EVs), solar panels, and semiconductors, vital for its "green transition" and economic future.

What are "Critical Mineral Clubs"?
- "Critical mineral clubs" are alliances of like-minded countries that collaborate to secure and diversify their critical mineral supply chains.

  - **The Critical Minerals Initiative:** Launched by the Quad countries in July 2025, to strengthen and diversify critical mineral supply chains, including recovering minerals from electronic waste, and involves coordinating with private companies to encourage investment.
  - **The Minerals Security Partnership (MSP):** India joined the MSP in June 2023. This partnership includes 14 countries and the EU (e.g., Australia, Canada, Japan, United States) and seeks to accelerate the development of diverse critical mineral supply chains by uniting governments and industries on projects from mining to processing and recycling.
- These clubs allow India and its partners **to combine technical knowledge, financial resources, and diplomatic efforts to support projects across the entire mineral value chain**.
- Such groupings help Indian companies overcome financial challenges by providing access to larger pools of money and advanced technologies from countries like Australia and Japan.

Challenges India Faces in These Clubs
- There is a concern that India might become merely a location for storing, transporting, and basic processing of minerals, while developed countries handle the more valuable steps like refining and manufacturing final products.

- o **India could become a market for finished goods rather than a major producer.**
- While these clubs discuss sharing scientific advancements, **developed countries hesitate to transfer their advanced technology and intellectual property rights (IPR) to developing nations like India.**

> **How India is Trying to Get Critical Minerals?**
> - India is making agreements with resource-rich countries. For example, it has deals with Argentina and Zambia to help its government and companies explore and mine minerals overseas.
> - India also partners with countries like the UAE, the US, and the UK for mineral processing and recycling.

How India Can Optimize These Partnerships?

- India must **prioritize building its own industrial capabilities and boosting scientific innovation.** This involves negotiating clauses

in agreements for investments in research and development (R&D) and academic exchanges.

- India needs to **focus on scaling up its own refining, recycling, and clean-tech manufacturing** (e.g., batteries, EVs) as part of a comprehensive supply chain strategy, aligning with its "Make in India" and "Atmanirbhar Bharat" initiatives.
- India's strong historical ties and growing influence with countries in Africa and Southeast Asia make it a preferred partner for Western countries in mineral extraction, as Indian businesses possess better local context understanding and extensive networks.
- India can represent the concerns of Global South countries, advocating for fair growth and control over their own development. By acting as a bridge between developed and developing nations, India can develop mutually beneficial partnerships.

2.4   HOW WILL TRUMP'S TARIFFS IMPACT INDIA?

Context

- India-US trade relations have entered an uncertain phase following President Donald Trump's announcement of a 25% tariff on Indian imports.

Why the USA impose additional tariffs on India?

- According to the USA, reasons for these tariffs include **India's existing tariff and non-tariff barriers**, its **continued energy and defense dealings with Russia** (which the US perceives as indirectly financing the Ukraine war), and **India's refusal to open sensitive sectors like agriculture and dairy to foreign competition.**
- There is also a **potential threat of a 10% additional "BRICS tariff"** and pending US legislation proposing a 500% tariff for countries with continued engagements with Russia.

Potential Impact of USA Imposed tariff on India
Economic Impact

- **GDP Impact:** Economists estimate that the elevated tariffs could reduce India's GDP growth by approximately 0.2 to 0.3% points. The US is India's largest trade partner, accounting for around 18% of its goods exports.
- **Export Competitiveness:** Tariff makes Indian goods less competitive and more expensive in the US market, affecting nearly half of Indian exports to the US. Key competitor nations like Pakistan, Vietnam, Bangladesh, and Turkey face lower tariffs of 15-20%, could expand their market..
- **Sectoral Impact:** Including gems and jewellery, clothing/textiles, phones, garments, precious stones, auto parts, and leather goods.
  - o The steel industry faces challenges, with concerns about increased imports into India and **potential dumping from countries like China, Japan, and other Asian nation**s with excess production capacity.
- **MSMEs and Labour-Intensive Industries:** Micro, Small, and Medium Enterprises

(MSMEs) in labour-intensive sectors such as garments, footwear, and handicrafts may experience falling demand and margins, risking employment and income loss.
- **Global Value Chains:** Higher duties could hinder India's role in US-led supply chains, discouraging global firms from sourcing from India.

Strategic Impact

- **Strained Bilateral Relations:** The tariffs further strain the already volatile trade relationship between the US and India.
- **Pressure on Multipolar Strategy:** Trump's criticism of India's alliances (e.g., BRICS, continued imports from Russia) puts pressure on India's multipolar foreign policy strategy, complicating its balancing diplomacy.
- **Revival of Trust Deficit:** Mistrust could spill into broader areas like education, visas, and technology, undermining long-term convergence between the two nations.

Way Forward for India

- **Pragmatic Engagement:** Continuing dialogue and negotiations with the US to find common ground and resolve trade disputes.
- **Strategic Concessions:** Reduce some import duties and make concessions in areas like public procurement and agriculture, provided there is reciprocity from the US.
- **Diversification of Trade:** Explore new markets and strengthen existing trade ties with other partners to reduce over-reliance on the US market.
- **Domestic Competitiveness:** Focus on boosting domestic manufacturing and improve the competitiveness of Indian goods to withstand external pressures, through "Make in India" initiatives and PLI schemes.
- **Safeguard Duties:** Imposition of safeguard duties to protect domestic industries, such as steel, from potential dumping.
- **Strengthening Multilateralism:** Advocate for fair and rules-based global trade through platforms like the WTO.

2.5 SHORT ARTICLES

Henley Passport Index 2025

Context
- Henley Passport Index 2025 shows an increase in India's passport rankings.

Henley Passport Index (HPI)
- Launched in 2005 as the Henley & Partners Visa Restrictions Index and updated to the Henley Passport Index in 2018.
- It **annually ranks passports worldwide based on the number of countries their holders can enter without a prior visa**. This number becomes the passport's visa-free "score."
- The data used for the index is sourced from the International Air Transport Association (IATA)'s Timatic documentation requirements database.

Henley Passport Index (HPI) 2025 Highlights
- The global average for visa-free destinations has risen significantly, from 58 in 2006 to an anticipated 109 in 2025.

- **Singapore holds the top position**, having the world's most powerful passport with visa-free access to 193 of 227 countries.
- Afghanistan ranks lowest, allowing visa-free travel to only 25 destinations.
- The **Indian passport moved from 85th rank in 2024 to 77th rank in 2025.** Currently, Indian passport holders can travel visa-free or with a visa-on-arrival to 59 destinations worldwide.

Cambodia-Thailand Border Dispute

Context
- Cambodia and Thailand are engaged in military clashes along their shared border.

Root Causes of the Conflict
- The conflict originates from a long-standing territorial dispute, mainly over ancient Hindu temples and sections of their shared border.
- The origins trace back to the early 20th century when France, as the colonial power in

Cambodia, drew a map in 1907 that Thailand disputes.

Main Disputed Temples

- **Prasat Ta Muen Thom Temple**: An ancient Khmer Hindu temple dedicated to Lord Shiva, built in the 11th century. It is located on a mountain pass in the Dangrek Mountains.
  - It is part of a larger complex including Prasat Ta Muen (a Buddhist site) and Prasat Ta Muen Tot (a hospital shrine). Both countries claim ownership, and recent clashes started here.

- **Preah Vihear Temple**: Dedicated to Lord Shiva, this temple is situated on a cliff in the Dângrêk Mountains in Cambodia and is a UNESCO World Heritage Site. The dispute over Preah Vihear is centered on the disputed 1907 map.

- The International Court of Justice (ICJ), the judicial body of the United Nations, has **ruled that the Preah Vihear Temple, and the land around the temple, belongs to Cambodia. However, Thailand rejected this ruling.**

United Nations' Sustainable Development Goals (SDG) Report 2025

Context

- According to the 10th edition of the United Nations' Sustainable Development Goals (SDG) Report 2025.

What are the Sustainable Development Goals (SDGs)?

- They are a set of 17 interconnected global goals with 169 targets adopted by all 193 member countries of the United Nations in 2015 as part of the "2030 Agenda for Sustainable Development."

Highlights of the UN Sustainable Development Goals (SDG) Report 2025

- This is the **sole official UN report monitoring global progress on the 2030 Agenda**, based on data from over 200 countries.
- It is **prepared by the United Nations Department of Economic and Social Affairs (UN DESA)** in collaboration with more than 50 international and regional agencies.

Global Performance on the SDGs

- Only 35% of the 139 assessed targets are on track or making moderate progress.
- Nearly half (48%) show insufficient progress, with 31% making only marginal gains and 17% showing no progress.
- 18% of targets are moving backward from their 2015 baseline levels.

Achievements Highlighted by the SDG Report

- **Basic Services and Infrastructure**: By 2023, 92% of the world's population had access to electricity, and Internet use increased to 68% in 2024 from 40% in 2015.
- **Health Improvements**: Declines in under-5 and neonatal mortality rates, new HIV infections, and effective malaria prevention efforts have saved millions of lives.
- **Social Protection**: More than half of the world's population (52.4%) now benefits from some form of social protection.
- **Gender Progress**: Child marriage and child mortality rates have fallen. Women now hold 27% of parliamentary seats globally.
- **Regional Successes**: East and South Asia are leading regional progress, with countries like Nepal, China, and India among the top improvers in certain areas. For example, India improved its overall SDG ranking to 99th position among 167 countries, up from 109th in 2024.

Actions Needed to Achieve the SDGs by 2030

- **Financial Reform**: Reforms in the global financial structure are needed to provide affordable capital to developing countries.

- o The Fourth International Financing Conference (FfD4) in Seville adopted the **"Sevilla Commitment,"** outlining a global framework for raising funds and addressing debt.
  - o The SDG 2025 report calls for **focused efforts on six priority areas**: Food Systems, Energy, Digital Inclusion, Education, Jobs and Social Protection, and Climate and Biodiversity.
- **New Financial Mechanism:** Official Development Assistance (ODA) from developed countries decreased by 7.1% in 2024, creating an **annual "financing gap" of $4 trillion needed for the SDGs**. This highlights the **need to find alternative sustainable finance sources.**
- **Data Systems:** Implementing frameworks like the Medellín Framework for Action, adopted at the 2024 World Data Forum, is crucial for guiding policy-making and tracking SDG progress.
- **Multilateral Cooperation:** Increased investments and coordinated international action based on evidence, equity, and mutual accountability are essential from all partners.

Diyah (Blood Money)
Context
- Kerala nurse Nimisha Priya, sentenced to death in Yemen for a murder, now faces a situation governed by Islamic 'blood money' laws under Sharia.

What is "Blood Money" (Diyah)?
- It is a **financial payment made by a person found guilty of a serious crime**, such as murder, to the victim's family.
- It functions as **a form of compensation and is a custom followed in countries whose legal systems include Islamic Sharia law.**
- It is most commonly applied in cases of unintentional murder or accidental killing.
- **Purpose:** Help the affected family cope with their suffering and compensate for financial losses due to the victim's death, such as lost income.

- **Does paying "blood money" mean the accused faces no other punishment?:** Even if the victim's family and the accused agree on "blood money," the community and the state (government) can still impose additional punishment to deter similar crimes.
- **Are the rules for "blood money" the same everywhere?:** Factors such as the victim's gender, religion, and nationality can influence the process and potentially the amount of compensation.
- **Is there a fixed amount for "blood money"?:** Sharia law does not specify a fixed amount for *Diyah*. The amount is subject to negotiation between the victim's family and the accused.

Carbon Border Adjustment Mechanisms (CBAM)
Context
- BRICS nations have "condemned and rejected" the European Union's (EU) Carbon Border Adjustment Mechanism (CBAM) and similar restrictive trade measures, arguing they undermine their transition to a cleaner economy.

What is the Carbon Border Adjustment Mechanism (CBAM)?
- It is a new **tariff imposed by the European Union (EU) on certain products whose production generates carbon pollution**.
- It aims to prevent **"carbon leakage," which occurs when companies shift production from countries with strict climate policies (like EU member states) to countries with weaker or no carbon costs.**
  - o This shift allows for cheaper, more polluting production but simply displaces emissions rather than reducing them globally.
- **Objectives:** Ensure that CBAM treats imported goods fairly, equivalent to domestically produced goods, thereby avoiding conflicts with international trade laws.

CBAM addresses carbon leakage by:

- **Making it Fair**: Ensuring that goods imported into the EU face a carbon cost similar to that borne by goods produced within the EU.
- **Discouraging Shifting Production**: Eliminating the financial incentive for industries to relocate to regions with lower environmental standards.
  - For example, if an EU steel factory pays high carbon emission costs while a non-EU factory does not, the non-EU steel might be cheaper. CBAM applies a "carbon cost" to the imported steel, creating a level playing field.

How "Carbon Certificates" work under CBAM?

- **Buying Certificates**: EU importers are required to purchase special "carbon certificates." The quantity of certificates needed is directly proportional to the carbon pollution generated during the production of the imported goods.
- **Pricing**: The price of these certificates is linked to the price of carbon in the EU's own carbon credit market.
- **Declaring Emissions**: Annually, EU importers must declare the carbon emissions involved in their imported goods and surrender the certificates.
- **Deductions for Paid Carbon Prices**: If an importer can demonstrate that a carbon price has already been paid for the goods in the country of origin (e.g., through a domestic carbon tax), they can deduct that amount from the certificates they need to buy, preventing double taxation.
- **Exemptions**: Companies in countries with carbon pricing systems deemed comparable in strictness to the EU's can export their goods to the EU without needing to purchase CBAM certificates.

BRICS 2025 Summit

Context

- The Prime Minister announced India's vision for BRICS to adopt a "new form" by 2026, focusing on "Building Resilience and Innovation for Cooperation and Sustainability" and addressing critical Global South issues.

About BRICS

- British economist Jim O'Neill coined the term "BRIC" in 2001 to describe the rapidly growing economies of Brazil, Russia, India, and China.
- **Formation and Expansion:**
  - The group officially began working together in 2006.
  - It held its first summit in Russia in 2009.
  - South Africa joined in 2010, completing the initial "BRICS."
  - In 2024, Iran, the United Arab Emirates (UAE), Egypt, and Ethiopia joined the group.
  - Indonesia joined in 2025.
- **Partner Countries:** At the 2025 Summit in Brazil, BRICS welcomed 11 new "partner countries": Belarus, Bolivia, Kazakhstan, Cuba, Nigeria, Malaysia, Thailand, Vietnam, Uganda, and Uzbekistan.
- **Global Stature:** BRICS now represents approximately 45% of the global population and contributes 35% to the world's total economic output (GDP). This economic scale surpasses that of groups like the European Union (EU) or G7.

Outcomes of the 2025 BRICS Summit

- **Rio de Janeiro Declaration:** Leaders highlighted a shift towards greater inclusivity and cooperation among developing nations.
- **Reaffirming Core Values:** The leaders reaffirmed principles of mutual respect, sovereign equality, democracy, and inclusiveness in their global interactions.
- **Strengthening Cooperation Pillars:** They committed to promote cooperation across three main areas: political and security issues, economic and financial matters, and cultural and people-to-people exchanges.
- **Addressing Global Challenges:** BRICS launched several important initiatives:
  - A "Leaders' Framework Declaration on Climate Finance" to assist developing countries in funding climate action.
  - A "Statement on Global Governance of Artificial Intelligence (AI)" to guide responsible AI use.
  - A "Partnership for the Elimination of Socially Determined Diseases" (e.g.,

tuberculosis) to improve global health equity.

- **Reforming Global Governance:** BRICS supported reforming international organizations like the United Nations Security Council, the International Monetary Fund (IMF), and the World Bank to provide a greater voice to developing countries.

2.6   SNIPPETS

Topics	Details
State Of Food Security And Nutrition In The World (SOFI) 2025	• The State of Food Security and Nutrition in the World (SOFI) 2025 tracks progress on SDG-2 (Zero Hunger). • It is an **annual report of five UN agencies** – FAO, IFAD, UNICEF, WFP, and WHO. • In 2024, about 8.2% of the global population faced chronic hunger, above pre-pandemic levels. • While Asia, particularly India, and Latin America show a decline in undernourishment, Africa and Western Asia experience increasing hunger, with Africa facing the highest undernourishment (PoU). • According to UNICEF, **regional inequality in hunger is driven by factors like conflict, climate change, and economic shocks.**
United Nations Office On Drugs And Crime (UNODC)	• UNODC in its annual 'World Drug Report' provides insights into the global drug problem, including trends in illicit drug use and production. • **Origin:** Established in 1997 through the **merger of the United Nations Drug Control Programme and the Centre for International Crime Prevention.** • **Headquarters:** Vienna, Austria. • It mainly **operates on voluntary contributions**, mainly from governments worldwide.
'Global Specs 2030' Initiative	• The World Health Organization (WHO) has launched the 'Global Specs 2030' initiative. • **Objectives:** Ensuring that everyone worldwide has access to affordable eye care services by the year 2030. • **Focus:** Addressing the two primary causes of vision loss: uncorrected refractive errors (the need for glasses) and cataracts.
M23 Rebel Group	• The Democratic Republic of Congo (DRC) and the M23 rebel group have agreed to a truce, formalized as the Doha Declaration of Principles. • The M23, or "March 23 Movement," is a **rebel military group in the Eastern Democratic Republic of Congo (DRC).** • It is mainly composed of ethnic Tutsi fighters and was established in 2012. • The instability can be traced back to the 1994 Rwandan genocide.
Global Capability Centres (GCCS)	• The Global Capability Centres (GCCs) are emerging as a promising area for collaboration between the United Kingdom and India. • GCCs are **specialized offices or centers established by large international companies in other countries.** • They handle advanced tasks such as research and development (R&D), complex data analysis, cybersecurity, and new technology development for their parent companies worldwide.
Agricultural Monitoring And	• Google launched the Agricultural Monitoring and Event Detection (AMED) API that provides information on crops and field activity across India.

Event Detection (AMED) API	- It **provides comprehensive information on crops and farm activities across India.** - It integrates data from various sources, including satellite imagery and weather data, to offer detailed agricultural insights. **Objectives:** By making the agricultural data publicly accessible, the AMED API empowers other companies, organizations, and developers to build sector-specific tools and applications.
Erasmus Plus	- The Erasmus+ Programme awarded scholarships to 101 Indian students. - It is an **initiative of the European Union to support international academic mobility.** - It allows students to study at two or more European universities. - The scholarship covers tuition fees, travel costs, and living expenses, making international education accessible.
Girmitiya	- Prime Minister during his visit to Trinidad and Tobago highlighted the contributions of the Indian diaspora, particularly the descendants of "Girmitiyas". - The term **"Girmitiyas" refers to Indian indentured labourers who migrated from India in the mid to late 19th century to work on plantations in various British colonies.** - The word 'girmitiya' derives from 'girmit', a local Indian pronunciation of 'agreement', referring to the indentureship contracts they signed. - Following the abolition of slavery in British colonies in 1833, a severe labour shortage emerged in plantation economies. To address this, the British initiated the indentured labour system, recruiting workers largely from the underprivileged regions of Bihar and Uttar Pradesh in India.
'3 By 35' Initiative	- The World Health Organization (WHO) launched a "3 by 35" initiative to combat the growing epidemic of non-communicable diseases (NCDs). - It **encourages countries to raise the prices of tobacco, alcohol, and sugary drinks by at least 50% by the year 2035 through the imposition of health taxes.** - The initiative brings together various global partners who offer technical expertise, policy advice, and practical experience to help countries successfully implement these health taxes.

2.6   SNIPPETS

TOPIC NAME	DATE
INDIA'S ROLE IN GLOBAL FOOD SAFETY	28th JULY 2025
INDIA NEGOTIATING TRADE AGREEMENTS ON ITS OWN TERMS	24th JULY 2025
HUMAN-MADE HUNGER CRISIS IN GAZA	24th JULY 2025
INDIA-EFTA TRADE AND ECONOMIC PARTNERSHIP AGREEMENT (TEPA)	23rd JULY 2025
INDIA'S ABSTENTIONS IN U.N. VOTES	23rd JULY 2025
GLOBAL SOUTH	15th JULY 2025
DIGITAL PLATFORMS AS EMERGING THREAT IN TERROR OPERATIONS	14th JULY 2025
PM VISIT TO NAMIBIA	11th JULY 2025

3. ECONOMY

3.1   NEW COOPERATIVE POLICY 2025

Context

- The Union Home Minister has introduced the National Cooperative Policy 2025.

Key Features of the New Cooperative Policy (2025)

- **Diversify**: Encourage Cooperative engagement in non-traditional activities like food processing, renewable energy, and tourism.
- **Strengthening and Deepening Grassroots**: Plan to establish 2 lakh new multipurpose Primary Agricultural Credit Societies (M-PACS), Dairy, and Fishery Cooperative Societies in all Panchayats/villages within five years.
  - This will be achieved through the convergence of existing government schemes (e.g., Dairy Infrastructure Development Fund, National Programme for Dairy Development, PM Matsya Sampada Yojana) and support from institutions like NABARD, and State Governments.
- **Diversification of PACS**: Focus on inclusive growth and employment, empowering rural populations, and diversifying cooperatives into over 25 sectors, including dairy and fishery units, godowns (warehouses), and Common Service Centers (CSCs).
- **Promotes cooperative education**: Through Tribhuvan Sahkari University, India's first national cooperative university.
- **Establishes National Cooperative Exports Limited (NCEL)**: To facilitate cooperative societies in exporting their products, boosting farmers' income and national exports.

- **Empower rural populations**: With a focus on Dalits, Adivasis, women, and youth, and strengthen their economic role.

Evolution of the Cooperative Sector in India

- A Cooperative Society is a voluntary association of individuals united to meet common economic, social, and cultural interests.
- Cooperatives gained official recognition with the Cooperative Credit Societies Act of 1904.
- The Multi-State Cooperative Societies (MSCS) Act of 2002 provided a framework for growth, promoting autonomy and democratic functioning.
- **Cooperatives achieved Constitutional status with the 97th Constitutional Amendment**, making their **formation a fundamental right (Article 19(1)(c)), promoting their management (Article 43B)**, and adding a new constitutional part (Part IXB).
- While the Agriculture Ministry managed cooperatives since 1979, a separate Ministry of Cooperation was established in 2021 to oversee policies and initiatives.
- **In 2021, the Supreme Court in Union of India vs Rajendra N. Shah** upheld the validity of the 97th Constitutional Amendment but struck down a portion of Part IXB concerning multi-state cooperative societies.
  - The Court said **"Parliament lacked the power to legislate on state-specific cooperatives without state legislature ratification."**
- The Multi-State Cooperative Societies (Amendment) Act, 2023, was introduced to improve governance, transparency, and prevent corruption in multi-state cooperatives.

Amul's Success story> started as a small dairy farmers' cooperative in Gujarat and evolved into a major brand, demonstrating the power of unity among small farmers.

Cooperative's Impact Across Sectors

Sector / Activity	Cooperative's Share	Impact
Agricultural Credit	20%	Provides loans to farmers for seeds, fertilizers, and equipment.
Fertilizer Distribution	35%	Ensures farmers receive fertilizers at fair prices, boosting productivity. Cooperatives also handle 25% of fertilizer production.
Sugar Production	31%	Major players in the sugar industry, providing stable income for sugarcane farmers.
Milk Production	10%+	Cooperatives like Amul manage over 10% of India's milk procurement and processing, empowering dairy farmers.
Wheat & Paddy Procurement	13%+ (Wheat), 20%+ (Paddy)	Helps farmers sell produce at Minimum Support Prices (MSP), ensuring fair returns and contributing to national food reserves.
Fishermen's Business	21%+	Supports fishermen by providing resources, market access, and processing facilities.
Overall Reach	31 Crore People, 8.4 Lakh Societies	Highlights the massive socio-economic impact, reaching a significant portion of India's population through various societies (e.g., credit, marketing, housing, consumer).

Challenges

- Concerns include a lack of transparency, accountability, democratic decision-making, and limited member participation.
- Cooperatives, especially those serving marginalized communities, **struggle with accessing financial resources**. Weak audit systems and mismanagement also contribute to financial instability.
- Many cooperatives are **slow to adopt modern technology and digital tools**, with low digital literacy and poor IT infrastructure further hindering progress.
- **Inadequate infrastructure**, such as storage and processing units, and limited market access present challenges for cooperatives.
- The cooperative movement is **more developed in some states compared to others**, leading to disparities.

Way forward

- **Conduct regular audits,** encouraging member participation, and **promoting professional management and training**.
- Establishing **cooperative development funds,** exploring innovative financing, **strengthening the cooperative credit structure,** can address financial needs.
- **Adopt digital tools and platforms for various operations** and integrating with platforms like Government e-Marketplace (GeM) will improve efficiency and market reach.
- **Increased investment in infrastructure** like warehouses and processing units, along with encouraging cooperatives to enter value-added services and new sectors, can boost growth.

3.2   INDIA-UK FREE TRADE AGREEMENT (FTA)

Context

- The Prime Minister of India and the UK Prime Minister signed a Free Trade Agreement (FTA) in London on July 24, 2025.

India-UK Free Trade Agreement (FTA)

- An FTA is a contract between countries to reduce or eliminate trade barriers like tariffs. This agreement is **India's first bilateral trade**

deal with a developed nation in over a decade.

- Both nations **aim to increase their yearly trade by £25.5 billion and double overall trade to US$120 billion by 2030.**
- India seeks to boost exports and industry growth, while the UK gains access to India's rapidly growing consumer market.

> **Status of India and UK Trade =>** In FY 2024–25, bilateral trade between India and the UK reached US$23.16 billion, with India Export $ 14,550 billion.

What India Received?

- **Export Sectors:** The UK will remove tariffs on 99% of Indian exports, including textiles, chemicals, processed foods, and marine products. This provides India a competitive edge over other major exporters.
- **MSME & Regional Growth:** The deal will boost exports in manufacturing hubs like Surat, Ludhiana, benefiting MSMEs and regional economies.
- **Professional Mobility:** Mutual recognition of qualifications, relaxed visa rules, and waived social security payments could save Indian companies around Rs 40 billion.
- **Green Tech & Energy:** UK investment in India's clean energy market (solar, hydrogen, battery, EV infrastructure) supports India's clean energy transition.
- **Agriculture & Food Processing:** 95% of agricultural products will receive duty-free treatment, boosting exports of basmati rice, spices, tea, seafood, and packaged foods.
- **Marine & Fisheries:** 99% of Indian marine exports (e.g., shrimp, tuna) will have duty-free access.
- **Geographical Indications (GI):** Unique Indian products like Feni, Toddy, and Nashik wine will receive special recognition and protection.
- **Strategic Gains:** India gains potential access to the EU market through the UK, and the deal strengthens digital and defense ties.

What India allowed?

- **Market Access:** 64% of UK exports will gain duty-free access to India, benefiting sectors such as alcoholic beverages, cosmetics, processed food, and digital services.
  - The average import tariff on UK goods in India will drop from 15% to 3%.
- **Professional Mobility:** The UK services sector will benefit from approximately 60,000 Indian professionals filling skill gaps, particularly in engineering and finance.
- **Agriculture & Food Processing:** Simplified food safety and plant health regulations (Sanitary and Phytosanitary) will ease UK agricultural and food product entry into India.
- **Strategic Gains:** The agreement strengthens digital and defense connections with India, promoting technology and security collaboration, and positioning the UK as a global trade partner post-Brexit.
- **New Opportunities for UK Businesses in India:** UK companies meeting a 20% domestic sourcing requirement (using at least 20% Indian content) can now participate in India's government purchasing market, treated as local suppliers.

Way forward for strengthening India-Uk trade Relation

- **Balanced Tariff Reductions:** Both nations should engage in balanced negotiations on duty cuts that protect domestic industries while maximizing mutual benefits.
- **Enhancing Professional Mobility and Social Security:** Addressing visa concerns and negotiating a totalization agreement for social security payments for Indian workers in the UK will improve ease of mobility and cost-competitiveness.
- **Finalizing Investment Protections:** A mutually beneficial Bilateral Investment Treaty (BIT) should be finalized to ensure a predictable and secure investment environment.
- **Strengthening Regulatory Cooperation:** Both countries should work towards aligning standards and certifications for smoother trade and push for mutual certification of

safety, food, and pharmaceutical standards to minimize barriers.
- **Sector-Specific Collaboration and Technology Transfer:** Promoting cooperation in areas like technology, digital trade, and green energy, including critical minerals and semiconductors, can unlock new areas for innovation and growth.

- **Inclusive and Sustainable Trade Practices:** The FTA should prioritize inclusive growth, ensure benefits reach all segments of society, particularly vulnerable sectors and MSMEs, and integrate sustainable practices, including a carbon offset deal, to align with climate goals.

3.3   SHORT ARTICLES

OECD-FAO Agricultural Outlook 2025-2034 Report

Context

- The Organisation for Economic Co-operation and Development (OECD) and the Food and Agriculture Organization of the United Nations (FAO) have jointly released the OECD-FAO Agricultural Outlook 2025-2034 report.

Highlights of the OECD-FAO Agricultural Outlook 2025-2034 Report

- **Cereal Grains Consumption:** By 2034, only 40% of the world's cereal production (including wheat, rice, and corn) will be directly consumed by humans, 27%, will be allocated to biofuel production and other industrial uses, while the remaining 33% will be used for animal feed.
- **Increasing Biofuel Demand:** Global biofuel demand is projected to grow by an average of 0.9% annually through 2034, mainly driven by India, Brazil, and Indonesia due to their rising energy demands.
  - The biofuel industry remains heavily dependent on food-based feedstocks (e.g., corn, sugarcane, palm oil).
- **Cereal Production and Farmland:** Global cereal production is expected to grow by 1.1% annually over the next decade.
  - Most of this growth will come from increased yields, signifying improved agricultural efficiency rather than expansion of farmland.
- **Drivers of Global Cereal Consumption Growth:** India and Southeast Asia are expected to contribute 39% of global cereal

consumption growth by 2034, reflecting rising populations and economic development.
  - China's share of consumption growth is projected to drop to 13% (from 32% in the previous decade), indicating shifts towards more diversified diets as its economy matures.

About FAO (Food and Agriculture Organization)

- The FAO is a **specialized agency of the United Nations,** leading international efforts to defeat hunger and improve nutrition and food security.
- Its Latin motto, *fiat panis*, translates to "let there be bread."
- Founded on October 16, 1945 (observed as World Food Day), it has 195 members.
- **Headquarter:** Rome, Italy.

About OECD (Organisation for Economic Co-operation and Development)

- The OECD is an intergovernmental organization with 38 member countries, founded in 1961 to support economic progress and world trade.
- Most members are developed economies with strong social security systems and high Human Development Index rankings.
- **Headquarters:** Paris, France.

Fiscal Health of States

Context

- The Reserve Bank of India's annual study on State Finances examines India's fiscal situation and macroeconomic stability.

What are the highlights of the Report?

- States manage over a third of total revenue, 60% of combined expenditure, and about 40% of National borrowing.
- **Post-pandemic recovery**
  - States have improved their fiscal positions since the Covid-19 pandemic, reducing fiscal deficits.
  - Tax buoyancy for states has increased to 1.4 (2021-25) from 0.86 (2013-20).
  - States depend more on market borrowings, covering 79% of the gross fiscal deficit in FY25.
- **States borrow more for consumption** rather than capital investments.
- **Overall States' debt-to-GDP ratio is above the recommended 20%.**
- State fiscal policies directly influence the national economy; **weak finances lead to macroeconomic instability, high borrowing increases interest rates** and impacts private investment through a "crowding out" effect.

Addressing the challenges

- Improve data reporting, monitor off-budget borrowing, and consider an independent fiscal council.
- Implement tax reforms, raise non-tax revenue, address GST issues, and revise mineral royalty rates.
- Prioritize capital expenditure, rationalize subsidies, manage borrowings efficiently, and reform power distribution companies (DISCOMs).
- Adhere to Finance Commission recommendations, provide autonomy for conditional transfers, review borrowing constraints, and streamline Central Sponsored Schemes (CSS).

Financial Inclusion Index 2025

Context

- The Reserve Bank of India (RBI) has published the Financial Inclusion Index (FII) 2025.

What is Financial Inclusion?

- Financial inclusion ensures that **all individuals and businesses, irrespective of their income or location, have access to useful and affordable financial products and services.**

- It empowers people to manage money, save, invest, and protect themselves from financial shocks, thereby helping to break cycles of poverty and fostering inclusive growth.

What is the Financial Inclusion Index (FI Index)?

- **Developed by the Reserve Bank of India (RBI),** the FI Index is a composite index designed to objectively measure the extent of financial inclusion across India.
- It was **first published in August 2021, without a base year, and is now published annually in July.**
- The index measures inclusion across three key pillars:
  - **Access (35%)**: Reflects the availability of financial services.
  - **Usage (45%)**: Indicates the extent to which financial services are being utilized.
  - **Quality (20%)**: Assesses the quality of financial services provided.
- The index ranges from 0 to 100, where 0 signifies complete financial exclusion and 100 denotes full financial inclusion.
- **Financial Inclusion Index 2025 (FY25)** =>Improved to 67 in March 2025, up from 64.2 in March 2024.

India's Chemical Industry

Context

- NITI Aayog has proposed several incentives aimed at boosting India's chemical exports by 2030.

India's Position in the Global Chemical Industry

- **Global Ranking:** A NITI Aayog Report indicates India ranks as the 6th largest chemical producer worldwide and the 3rd largest in Asia.
- **GDP Contribution:** The chemical sector contributes 7% to India's national GDP.
- **Export Ranking (Excluding Pharma):** India ranks 14th in global chemical exports.
- **Market Valuation:** The Indian chemical market reached a valuation of $220 billion in 2023, with government and industry projections aiming for $1 trillion by 2040.
- **Trade Deficit:** In 2023, India experienced a trade deficit of $31 billion in chemicals.

- **Global Supply Chain Share:** India's share in global chemical supply chains stood at merely 3.5% in 2023, lower than China's 23%.
- **Manufacturing Concentration:** Chemical manufacturing in India largely concentrates in Maharashtra and Gujarat.
- **Niche Global Player:** India major exporter of dyes and colorants, contributing 16–18% to global dyestuff production.

NITI Aayog's New Roadmap for Exports

- **Developing Production Clusters:** Establishing new and upgrading existing manufacturing hubs to enable larger-scale production and achieve economies of scale.
- **Upgrading Port Infrastructure:** Emphasizes improving port infrastructure for better logistics and efficient storage of chemicals.
- **Launching Sales-Linked Incentive Scheme:** NITI Aayog suggests introducing a program that provides financial incentives based on sales performance. This encourages local production and exports of critical chemicals, likely analogous to the Production Linked Incentive (PLI) schemes in other sectors.
- NITI Aayog's report projects that India can double its share in global value chains to 5–6% by 2030.
  - This growth depends on shifting focus from high-volume basic bulk chemicals to higher-value, high-demand specialty chemicals.
  - The strategic shift could increase exports by an additional $35–40 billion by 2030.

Reserve Bank of India (Pre-Payment Charges On Loans) Directions 2025

Context

- The Reserve Bank of India (RBI) introduced rules to prevent banks and Non-Banking Financial Companies (NBFCs) from charging prepayment penalties on loans.

About Prepayment Penalties

- Prepayment penalties are fees **lenders impose on borrowers who repay their loans before the scheduled end of the loan term.**

- **Lender Rationale:** Lenders levy these charges to compensate for the potential loss of future interest income resulting from early loan repayment.
- **Impact on Borrowers:** Penalties can deter borrowers from optimizing their financial management, such as early repayment of high-interest loans. This limits a borrower's financial flexibility.

Key Provisions of the RBI (Pre-payment Charges on Loans) Directions 2025

- **Applicability:** The rules apply to all loans and advances sanctioned or renewed on or after January 1, 2026.
  - Cover entities, including commercial banks (excluding Payments Banks), co-operative banks, Non-Banking Financial Companies (NBFCs), and All India Financial Institutions.
- **Disclosure Requirements:** Regulated entities must clearly disclose any applicable prepayment charges in loan agreements and sanction letters.
- No Prepayment Charges on Floating Rate Loans (interest rate fluctuates over the duration of the loan).
- **Exemptions:** Cash credit and overdraft facilities are exempt from these prepayment charges.

Stablecoins

Context

- The US House of Representatives has passed the Genesis Act, a bill aimed at regulating US dollar-pegged stablecoins.

What are Stablecoins?

- Stablecoins are a **type of cryptocurrency designed to maintain a stable value**, unlike volatile cryptocurrencies such as Bitcoin.
- They achieve this by pegging their value to a stable asset, commonly a fiat currency like the US dollar, meaning one stablecoin equals one US dollar.

How Stablecoins Maintain Their Value

- **Holding Back-Up Assets**: Most stablecoins are backed by reserve accounts holding an equivalent amount of real-world assets (e.g.,

US dollars, gold). For every stablecoin issued, a matching amount of the backing asset is held in reserve.

- **Using Smart Computer Programs (Algorithms)**: Some stablecoins employ algorithms to automatically adjust their supply in the market. If the price rises, more stablecoins are created to lower it; if the price falls, stablecoins are removed from circulation to increase it.

Challenges and Risks with Stablecoins

- The Bank for International Settlements (BIS) has warned that **unchecked growth of stablecoins could pose financial risks.**
- To deal with the risk of terror financing and money laundering, the Financial Action Task Force (FATF) recommends regulating stablecoins as "virtual assets" and requiring companies dealing with them to adhere to strict rules, including the "Travel Rule" for sharing transaction participant information.

India's Stance on Stablecoins and Cryptocurrencies

- The **RBI is concerned about stablecoins, viewing them as a potential threat to monetary policy and financial stability** due to the risk of "dollarization," where widespread use of US dollar-linked stablecoins could weaken the Indian Rupee and the RBI's control over the economy.
- Currently, India treats all cryptocurrencies, including stablecoins, as **"Virtual Digital Assets" (VDAs) under tax laws (30% tax on gains and 1% TDS on transactions), but they are not officially recognized as legal currency.**
- In May 2025, the Supreme Court urged the government to establish clear regulations for cryptocurrencies.

3.4 SNIPPETS

Topics	Details
Alternative Investment Fund (AIF)	• The Reserve Bank of India has issued guidelines limiting investments by banks and NBFCs in Alternative Investment Fund (AIF) to 20% of the scheme's corpus. • These funds are **regulated by the Securities and Exchange Board of India (SEBI).** • AIFs invest in asset classes beyond traditional stocks and bonds, such as private equity, venture capital, hedge funds, real estate, and commodities, for high return. • The minimum investment required for an AIF is ₹1 crore for most investors.
Carbon Credit Trading Scheme (CCTS)	• Government set Greenhouse Gas (GHG) emissions intensity targets for entities in eight heavy industrial sectors under the Carbon Credit Trading Scheme (CCTS) compliance mechanism. • **Origin:** Officially notified in June 2023 • **Objectives:** Establish a national framework for trading carbon credits, facilitating cost-effective and efficient reductions in GHG emissions. • The **Bureau of Energy Efficiency (BEE), under the Ministry of Power, is responsible for developing the CCTS's operational framework.** • The scheme is legally supported by the Energy Conservation (Amendment) Act, 2022.
National Health Claims Exchange (NHCX)	• Government plans to shift the management of NHCX. • The NHCX is a **new digital system designed to simplify and streamline the processing of health insurance claims.** • It was developed by the National Health Authority (NHA) under the Ayushman

	Bharat Digital Mission (ABDM), in close collaboration with the IRDAI. • Union Government to **shift the management of NHCX from solely the Ministry of Health to joint supervision by the Ministry of Finance and the Insurance Regulatory and Development Authority of India (IRDAI).**
Battery Passport	• India plans to introduce a "Battery Passport" system to provide Electric Vehicle (EV) owners with information about their vehicle batteries. • The "Battery Passport" system **establishes a unique digital record for every EV battery**, which contains specific, detailed information stored digitally and linked to a unique QR code printed directly on the battery. • It includes comprehensive information about a battery's lifecycle, including its source, manufacturing, composition, performance, and end-of-life details.
Reclaim Framework	• The Coal Ministry launched the RECLAIM Framework to manage the closure of coal mines more responsibly. • It is designed to **ensure that when a mine shuts, both the environment and the local people who depend on the mine for their jobs are taken care of properly.** • The Coal Controller Organisation, under the Ministry of Coal, developed this framework. They partnered with the Heartfulness Institute to create it.
Financial Fraud Risk Indicator (FRI)	• The Reserve Bank of India (RBI) suggested all major banks (including commercial banks, small finance banks, payments banks, and co-operative banks) to start using the Financial Fraud Risk Indicator (FRI). • It is a **new tool launched by the Digital Intelligence Unit (DIU), under the Department of Telecommunications (DoT).** • It strengthens India's digital security framework by assessing the potential risk of a mobile number being associated with financial fraud. **The FRI classifies mobile numbers into risk categories: Medium, High, or Very High.** • It allows banks and financial institutions to stop suspicious transactions involving high-risk mobile numbers, and issue alerts, to prevent fraud.
Financial Stability Report	• The Reserve Bank of India (RBI) published the Financial Stability Report (FSR) June 2025. • The **Reserve Bank of India (RBI) publishes the Financial Stability Report (FSR) twice a year.** **Improving Asset Quality:** • **Banks:** Scheduled Commercial Banks (SCBs) recorded Gross Non-Performing Assets (GNPAs) at 2.3%. • **Non-Banking Financial Companies (NBFCs):** Capital adequacy exceeds 22%, and GNPAs have decreased to 4.2%. • **Strong Capital Buffers:** The banking sector's Capital to Risk-Weighted Assets Ratio (CRAR) stands at 16.8%, exceeding the RBI's regulatory requirement of 15%. This provides a cushion against potential shocks. • **Forex Reserves:** India's foreign exchange reserves crossed $642 billion by June 2025, providing a buffer against external shocks and currency volatility.

TOPIC NAME	DATE
WORLD BANK REPORT "TOWARDS RESILIENT AND PROSPEROUS CITIES IN INDIA"	28th JULY 2025
PUBLIC SECTOR UNDERTAKINGS (PSUS)	25th JULY 2025
DUMPING: HOW CAN INDIA PROTECT ITS INDUSTRIES	22nd JULY 2025
INDIA ACHIEVES 50% GREEN ENERGY MILESSTONE	19th JULY 2025
INCOME INEQUALITY IN INDIA	11th JULY 2025
MAKE IN INDIA V/S MADE IN CHINA	8th JULY 2025
GIG WORKERS	5th JULY 2025
WHERE DOES INDIA LAG IN GENDER METRICS?	1st JULY 2025

4. DEFENSE & SECURITY

4.1 MILITARY SURVEILLANCE SATELLITES

Context

- Govt. builds on lessons from Operation Sindoor where satellite surveillance proved to be an important asset.

About India to fast-track new military satellites for better surveillance at borders:

- India's efforts to strengthen national security are undergoing a significant transformation through the accelerated development and deployment of **military-grade surveillance satellites**. In light of evolving border challenges — particularly along the **northern frontier with China and western front with Pakistan** — India is giving renewed emphasis to **space-based defence infrastructure**, aimed at enhancing real-time intelligence, surveillance, and reconnaissance (ISR) capabilities.

Why the Need for Satellite-Based Surveillance?

- Recent developments, particularly the **2020 Galwan Valley clash**, have highlighted gaps in India's border surveillance network. Traditional ground-based methods are limited by terrain, weather, and logistical constraints. With rising **incidents of transgressions, incursions**, and increased deployment by adversaries, **round-the-clock, real-time monitoring** is essential.
- Military satellites offer a **persistent and wider field of view**. They are capable of observing vast, remote regions such as the **Himalayan belt**, detecting enemy troop movements, and even tracking infrastructure developments on the other side of the border.

Strategic Significance of Fast-Tracking Military Satellites

- India already operates a few dual-use satellites, such as **Cartosat** and **RISAT series**, which support both civilian and military

purposes. However, these are inadequate for comprehensive military needs.
- The push now is for **dedicated military satellites** — with high-resolution optical and synthetic aperture radar (SAR) imaging, all-weather, day-night capabilities, and faster data relays to armed forces.
- Fast-tracking satellite launches will significantly improve:
  - **Border management**: especially in inaccessible terrains like Arunachal Pradesh, Ladakh, and the Rann of Kutch.
  - **Early warning systems**: for missile launches and troop mobilisation.
  - **Inter-service coordination**: among the Army, Navy, and Air Force via space-based secure communications.
  - **Real-time target acquisition and precision strike support**: enhancing the efficacy of air and missile operations.

Institutional Framework and Recent Developments

- India has already established the **Defence Space Agency (DSA)** and **Defence Space Research Organisation (DSRO)** for space warfare and military applications. These institutions are tasked with integrating space assets into India's defence doctrine.
- Additionally, ISRO, in coordination with the armed forces, is working on:
  - **GEO and LEO satellites** for military-specific use
  - **Space situational awareness systems**
  - **Satellite constellations** for redundancy and persistent coverage
- Reports suggest that **at least two to three new military satellites are in the pipeline**, with expedited timelines.

Challenges

- Despite progress, certain obstacles persist:

- o **Technological dependencies**: India still relies on some imported components, particularly for radiation-hardened electronics.
- o **Budgetary constraints**: Space-based military platforms are capital-intensive.
- o **Cyber and anti-satellite (ASAT) threats**: With rising global weaponisation of space, India's satellites themselves become vulnerable.
- o **Coordination between agencies**: Faster integration between ISRO, DRDO, and the defence forces is required for timely execution.

Global Context

- Space is increasingly seen as the **fourth dimension of warfare**, alongside land, air, and sea. Nations like the **United States, China, and Russia** have already established dedicated space commands. China's **Yaogan series** satellites, believed to support PLA's military operations, give it an edge in terms of persistent border visibility.
- India's recent moves — such as the **Mission Shakti ASAT test in 2019** and expansion of

space infrastructure in defence — indicate a shift towards asserting space dominance.

Way Forward

- To maintain a credible deterrence and ensure national security, India should:
  - o Accelerate the launch of **dedicated defence satellites**
  - o Promote **indigenisation** in satellite sub-systems
  - o Build **resilience** through multiple small satellites in constellations
  - o Strengthen **cybersecurity and ASAT defences**
  - o Foster **public-private partnerships** for innovation in space technologies
- Space has emerged as a decisive arena in modern strategic competition. By fast-tracking military satellites, India is not only bridging critical gaps in surveillance and communication but also taking concrete steps toward developing a **comprehensive and integrated national defence architecture**. This move is essential to secure India's borders and prepare for the emerging nature of hybrid and multi-domain warfare.

4.2 ED AND THE US DONKEY ROUTE

Context

- The Enforcement Directorate conducted another round of searches in Punjab and Haryana in the "U.S. Donkey Route" case.

What is the Donkey Route?

- The *'Donkey Route'* refers to a long, risky, and illegal path that migrants use to enter countries like the U.S. or Canada without valid travel documents. The route involves air travel to Central or South American countries (**such as Ecuador, Brazil, or Guatemala**), followed by a treacherous overland journey through multiple nations, often on foot or by unsafe transport, to the U.S.-Mexico border.

Key features:

- Often facilitated by international smuggling syndicates.
- Involves falsified documents and bribes at various checkpoints.
- Exposes migrants to risks such as human trafficking, violence, and death.
- Large amounts of money (₹25–₹80 lakh per person) are paid to agents via illegal financial channels.

Indian Connection and Ongoing Crackdown

- The U.S. Immigration and Customs Enforcement (ICE) recently dismantled a smuggling ring operating between the U.S. and India. According to investigations, around 1,000 Indians were illegally trafficked using the Donkey Route over the last few years.

Indian agencies are now tracing:

- Travel agents and sub-agents in Punjab, Gujarat, and Haryana.
- Forged documents (passports, visas, identity papers).
- Use of **hawala networks** for cross-border money transfers.
- Bank accounts are used to receive payments for the smuggling process.

Money Laundering Angle

- Human smuggling and illegal migration often go hand-in-hand with **money laundering**, as black money is funneled through hawala or layered financial transactions.
- The proceeds of crime from smuggling:
  - Are moved through shell companies and offshore accounts.
  - Involve violations of the **Foreign Exchange Management Act (FEMA)** and **Prevention of Money Laundering Act (PMLA)**.
  - Evade taxation and banking oversight.
- The Enforcement Directorate has now initiated probes under the PMLA to trace the financial trail and seize proceeds of crime.

Why Do People Use the Donkey Route?

- **Push factors**: Unemployment, poverty, lack of educational opportunities, and agrarian distress (especially in Punjab and Gujarat).
- **Pull factors**: Perceived prosperity and job opportunities in the West.
- **Social pressure**: Prestige linked to settling abroad and sending remittances.

Legal and Policy Framework

- India has no comprehensive **anti-human smuggling law**, though relevant sections of the **Indian Penal Code (IPC)**, **Passport Act**, and **Immigration (Carriers' Liability) Act** are invoked.
- Key challenges:
  - Lack of coordination between immigration, police, and intelligence units.
  - Weak enforcement in rural areas where agents operate freely.
  - Difficulty in prosecuting international agents without **mutual legal assistance treaties (MLATs)**.

Global Cooperation and Way Forward

- **Bilateral cooperation** between India and the U.S. must be enhanced under the umbrella of Homeland Security and INTERPOL mechanisms.
- **Awareness campaigns** in vulnerable districts about the risks of illegal migration.
- **Financial surveillance** of hawala and remittance patterns, with support from institutions like the Financial Intelligence Unit (FIU).
- A **dedicated anti-human smuggling law** with international jurisdictional powers is needed.
- The Donkey Route case is not merely a law-and-order issue—it touches upon transnational crime, economic vulnerabilities, and international diplomacy. The Indian government must strengthen its domestic enforcement mechanisms, crack down on the smuggling ecosystem, and build robust partnerships with destination countries to prevent such dangerous migration pathways.

4.3   CYBERFRAUD'S IN INDIA

Context

- The Ministry of Home Affairs (MHA) has estimated that a significant portion of the cyber scams targeting Indians come from Southeast Asia.

Introduction:

- In recent years, India has witnessed a steep rise in cross-border cyber frauds, resulting in significant economic losses and undermining national cybersecurity. A startling revelation from Indian enforcement

agencies and intelligence reports indicates that Indians are losing **₹1,000 crore monthly**—amounting to **₹7,000 crore in the first half of 2024 alone**—to international cybercriminal syndicates, particularly those operating out of Southeast Asia. These developments pose serious concerns for national security, digital governance, and law enforcement capacity.

Nature and Modus Operandi of Cyber Frauds

- The scams originate predominantly from **countries like Cambodia, Myanmar, and Laos**, where cybercrime syndicates operate with high levels of impunity. These frauds involve:

Type of Scam	Modus Operandi
Digital Loan Apps	Fraud apps offer instant loans, then blackmail users by misusing access to personal data via malware.
Investment Scams	Fake crypto, forex, or betting schemes lure victims into fraudulent investments.
Job and Romance Scams	False promises of jobs or relationships are used to manipulate victims into sending money.
Phishing & Remote Access	Users are tricked via links (SMS, email, social media) to give scammers device access or data.

- Victims are often recruited or targeted via **WhatsApp, Telegram, Facebook, and Instagram**, and are later manipulated through **AI-generated identities, deepfakes**, and call center-style operations run by trafficked Indian and South Asian youth.

Causes behind Rising Cyber Frauds

- **Weak Enforcement in Host Countries**: Many Southeast Asian nations have porous borders, weak cyber laws, and lack the infrastructure to regulate digital frauds.
- **Digital Illiteracy and Overconfidence**: Rapid digital adoption in India is not matched by cyber awareness, making citizens vulnerable.
- **Dark Web and Cryptocurrency Use**: These tools enable anonymity in transactions, making it difficult to trace fraud proceeds.
- **Human Trafficking Nexus**: Indian youths are lured abroad on the pretext of jobs and are coerced into working for scam syndicates.

Implications for India

- **Economic Loss**: ₹7,000 crore lost in just six months has wide implications for household savings, consumer trust, and digital commerce.
- **Trust Deficit in Digital Platforms**: Fraud undermines trust in digital financial systems like UPI, mobile wallets, and online banking.
- **Strain on Law Enforcement**: Indian agencies often face jurisdictional and coordination challenges in pursuing cross-border criminals.
- **Human Rights Concerns**: Increasing instances of human trafficking from India for cyber fraud

operations raise serious humanitarian and diplomatic issues.

Government and Inter-Agency Responses

- **CIBMS and Interpol Coordination**: India is working closely with **Interpol**, **ASEANAPOL**, and other regional policing bodies to share intelligence and trace syndicates.
- **Digital Personal Data Protection Act, 2023**: Provides a framework for data privacy and aims to reduce misuse of personal data by malicious actors.
- **Indian Cyber Crime Coordination Centre (I4C)**: Launched under the Ministry of Home Affairs to combat cybercrime with a focus on coordination and real-time alerts.
- **Crackdown on Illegal Apps and Platforms**: Over 500 loan and gambling apps have been blocked, and advisories have been issued to app stores and telecom operators.
- **Capacity Building**: Police personnel are being trained in cyber forensics and digital investigation.

Way Forward

- **Bilateral Agreements**: India must press for **Mutual Legal Assistance Treaties (MLATs)** and

cybercrime pacts with ASEAN nations for swift prosecution and extradition.

- **Cyber Literacy Campaigns**: Nationwide awareness drives, particularly targeting rural and semi-urban areas, are vital to prevent victimization.
- **AI-Driven Threat Detection**: Investment in AI-based surveillance to detect fraudulent websites, financial anomalies, and deepfakes can help counter emerging threats.
- **Human Trafficking Prevention**: Stronger immigration checks, job verification mechanisms, and international cooperation are needed to rescue Indian youth trapped abroad.
- **Financial Sector Resilience**: Strengthening KYC norms, transaction monitoring, and building a grievance redressal system tailored to online fraud victims is essential.

Conclusion

- The challenge of cross-border cyber fraud highlights a new-age national security threat that transcends traditional policing boundaries. India's response must be multifaceted, encompassing technology, diplomacy, public awareness, and legal reform.
- While steps have been taken, a stronger and more coordinated approach is needed to prevent economic losses, safeguard citizens, and assert India's leadership in global cyber governance.

4.4 ARMY'S AI ROADMAP FOR OPS BY 2026-27

Context

- The Indian Army aims to integrate AI, ML, and Big Data by 2026–27 for drone swarms, real-time ops, simulations, info warfare, and data-driven decisions.

Background:

- The Indian Army has embarked on a transformative journey by fast-tracking its Artificial Intelligence (AI) roadmap, aiming to integrate intelligent systems into its operational structure by 2026–27. This initiative gained momentum after the success of **Operation Sindoor**, during which AI-enabled surveillance and facial recognition systems played a pivotal role in rescuing hostages in Manipur.

Key Components of the AI Roadmap

- According to official sources, the roadmap includes **over 85 AI use cases**, spanning across five major categories:
  1. **Surveillance and Reconnaissance**
  2. **Command and Control**
  3. **Logistics and Supply Chain**
  4. **Information Warfare**
  5. **Training and Simulation**

- These categories reflect a vision that goes beyond mere automation—aiming instead for adaptive, predictive, and autonomous systems in modern warfare.

Recent Developments

- **AI War Rooms**: The Indian Army is in the process of establishing state-of-the-art war rooms equipped with AI-enabled decision-support systems. These will enhance real-time threat assessment, enemy movement prediction, and resource allocation.
- **Drone Swarming Technology**: After successful trials, including those during Operation Sindoor, swarming drones are being tested for deployment in surveillance and tactical strike operations, especially in **high-conflict zones and insurgency-prone areas**.
- **Smart Surveillance Systems**: Facial recognition tools integrated with real-time data analytics are being deployed for identifying potential threats and monitoring activities along sensitive border areas.
- **AI in Logistics**: Predictive maintenance and automated resupply chains are being developed to improve efficiency in **remote**

and **forward-operating posts**, reducing dependency on manual logistics.

Strategic Significance

- The Indian Army's AI push comes at a time of rising asymmetric threats and technological advancements among global adversaries, notably China's rapid induction of AI in military systems. The roadmap strengthens:
- **Battlefield Preparedness**: By enabling faster decision-making and reducing the sensor-to-shooter loop.
- **Border Management**: Especially in **Eastern Ladakh and Northeast**, where AI systems can provide tactical advantages.
- **Counter-insurgency and Anti-terror Operations**: Use of AI in identifying insurgent hideouts, facial recognition, and urban warfare simulation offers a critical edge in domestic operations.

Institutional Support and Policy Alignment

- The roadmap aligns with **India's National Strategy for Artificial Intelligence** under NITI Aayog and complements the **Defense AI Council (DAIC)** and **Defense AI Project Agency (DAIPA)**.

- **Collaborations with Start-ups and Academia**: Through iDEX (Innovations for Defence Excellence), the Army is encouraging indigenous innovation and creating a robust AI defense ecosystem.

Challenges Ahead

- **Data Privacy and Ethical Concerns**: Use of AI in surveillance raises significant privacy concerns and the potential for misuse.
- **Integration with Legacy Systems**: A major hurdle remains in harmonizing AI platforms with existing military hardware and software.
- **Skilling the Workforce**: Training personnel to operate and trust AI systems will be critical for successful implementation.

Conclusion

- The Indian Army's AI roadmap marks a decisive step toward building a tech-driven, future-ready force. With strategic foresight, institutional backing, and operational urgency, this initiative can redefine India's military capabilities. However, the success of this roadmap will depend on how effectively India navigates the accompanying ethical, logistical, and infrastructural challenges.

4.5   SHORT ARTICLES

Darknet
Context
- The Narcotics Control Bureau (NCB) said its Kochi zonal unit busted "India's most prolific darknet drug syndicate" operating under the name "Ketamelon".

Operation MELON:
- **Agency Involved**: Narcotics Control Bureau (NCB), Kochi Zonal Unit
- **Date:** July 2, 2025
- **Operation Name**: *Operation MELON*
- **Key Arrest**: Kerala-based darknet vendor "Ketamelon" — India's only known *Level 4* darknet drug supplier
- **Seizures**:
  o 1,127 LSD blots, 131.66 g ketamine (₹35.12 lakh value)

  o ₹70 lakh in cryptocurrency (USDT in hardware wallets & Binance)
  o Digital tools: TAILS OS pen drives, hard drives, crypto wallets
- **Modus Operandi**:
  o *Sourcing*: Drugs from UK-based vendor "Gunga Din", linked to "Dr Seuss/Tribe Seuss"
  o *Distribution*: ~600 consignments across major Indian cities over 14 months
- **Significance**:
  o India's largest darknet drug bust after 2023's "Zambada" case
  o Use of encrypted OS, multiple wallets shows advanced cyber concealment
  o Highlights India's integration into global darknet drug trade

- **Enforcement Strategy**:
  - Postal channel surveillance
  - Cyber forensics and crypto-tracking
  - Inter-agency coordination (technical, forensic, postal units)

Defence Accounts Department (DAD)

Context

- Defence Minister Rajnath Singh highlighted the Defence Accounts Department's role in boosting Armed Forces' operational readiness and financial agility at the 2025 Controllers' Conference in New Delhi.

What is the Defence Accounts Department (DAD)?

- The DAD is the financial backbone of India's defence services, functioning under **the Ministry of Defence (MoD).** It plays a critical role in ensuring timely payments, audit, financial advice, and accounting support for the Armed Forces and other MoD entities.
- **Why it's important**: By managing **defence expenditures, pensions, claims, and accounts**—with a network spanning 1,110 offices—it supports the operational preparedness and financial agility of the Armed Forces.

Organizational Structure

- The DAD is headed by the **Controller General of Defence Accounts (CGDA)**, who serves as the **Principal Accounting Officer** for the Ministry of Defence. The CGDA operates under the **Department of Expenditure, Ministry of Finance**, but functions in close coordination with the MoD.
- The department comprises a wide network of **1,110 offices** across the country, serving the **Indian Army, Navy, Air Force, Coast Guard, Defence Research & Development Organisation (DRDO), Ordnance Factories**, and other defence organizations such as the **Canteen Stores Department (CSD), Directorate General of Quality Assurance (DGQA)**, and **Border Roads Organisation (BRO)**.

Historical Evolution

- **Beginnings**: Originated in 1750 as "Military Pay Masters" under the East India Company, evolving to Commissary General (1776), Military Auditor General (1788), and Accountant General of the Military Department (1864).
- **Modern Era**: Officially became the **Defence Accounts Department on 1 October 1951, with CGDA as head.**
- **Administrative Shift**: Up to 1983, under the Ministry of Finance. Post-introduction of the Integrated Financial Advisor (IFA) scheme in Aug 1983, realigned under MoD control.

Modernization and Digital Initiatives

- In recent years, the DAD has embraced digital transformation through initiatives such as:
  - **Defence Accounts Receipts and Payments System (DARPS)**
  - **Integrated Financial Advisor (IFA) system**
  - **Online Pension Sanction and Payment Tracking (SPARSH)**
- These reforms aim to improve transparency, reduce delays, and align the department with modern public financial management standards.

Kargil war

Context

- On Kargil Vijay Diwas, President Murmu and PM Modi paid tributes to the Kargil heroes.

Historical Background:

- **Kargil War (1999)**: Infiltration by Pakistani regulars and militants into Indian-held positions in Kargil, along the Line of Control, prompted **Operation Vijay**. By 26 July 1999, India had reclaimed heated positions such as Tololing, Tiger Hill, Gun Hill, and Point 4875, under extremely challenging mountain warfare conditions.
- India lost **527 soldiers** (with over 1,300 wounded), while Pakistani losses ranged from several hundred to thousands.
- Kargil Vijay Diwas is observed annually on **26 July** to mark India's victory and honour its war heroes. Since 2000, the Prime Minister has

laid a wreath at Amar Jawan Jyoti in New Delhi, and ceremonies are held nationwide.

Significance

- **Symbol of Courage and Resolve**: The celebrated exploits of soldiers such as Captain Vikram Batra and Lt. Manoj Pandey remain emblematic of Indian military valor. The enduring legacy underscores selfless service under harsh terrain and hostile conditions.
- **Institutional Reforms**: The conflict catalysed defence reforms—strengthened tri-service cooperation, establishment of the Chief of Defence Staff (CDS) position, and a push for modernization and self-reliance in defence procurement.

Unmanned Aerial Vehicle Launched Precision Guided Missile-V3

Context

- India successfully conducted flight trials of the UAV-Launched Precision Guided Missile (ULPGM)-V3 at NOAR in Kurnool, Andhra Pradesh.

About ULPGM-V3

- **What it is:** A lightweight, air-to-surface missile explicitly designed for launch from unmanned aerial vehicles (UAVs), targeting both stationary and moving threats with surgical accuracy.
- **Developed by:** Research Centre Imarat (DRDO), in collaboration with **Adani Defence & Aerospace**, **Bharat Dynamics Limited (BDL)**, Bengaluru-based Newspace Research & Technologies, and various MSMEs/startups under the **Make in India** initiative.

Variants evolution:

- **ULPGM-V1:** Basic prototype
- **ULPGM-V2:** Operational variant with limited range
- **ULPGM-V3 (also known as ULM-ER):** Extended-range, enhanced version

Technical Specifications & Capabilities

ULPGM-V3

Maximum Range

- **Up to 4 km (day); ≈2.5 km (night)** (extended toward 10 km in development)

Guidance System

- Imaging infrared dual-channel seeker, passive homing, laser guidance, mid-course updates via two-way datalink; fire-and-forget capability

Accuracy

- Circular error probable (CEP) of ~10 cm

Warhead Types

- Modular payloads: tandem-charge for anti-armour, penetration-cum-blast for bunkers, pre-fragmented for personnel targets.

Operating Conditions

- Day/night, plains and high-altitude regions; deployable from lightweight UAVs such as DRDO's hexacopter platform.

Enforcement Case Information Report (ECIR)

Context

- ED has filed an ECIR against 29 celebrities for allegedly promoting illegal betting apps in violation of the Public Gambling Act, 1867.

Introduction:

- The Enforcement Case Information Report (ECIR), filed by the Enforcement Directorate (ED), is an internal document that initiates investigations under the Prevention of Money Laundering Act (PMLA), 2002.
- Unlike the First Information Report (FIR) under the Criminal Procedure Code (CrPC), the ECIR is not mandatorily shared with the accused.
- This distinction has triggered significant legal and constitutional debate, especially regarding procedural fairness and the protection of fundamental rights.

What is an ECIR?

- An ECIR is a written record created by the ED when it takes cognisance of a scheduled offence (predicate offence) under the PMLA. It is akin to an FIR but functions only as an internal trigger for the agency to begin an investigation.
  - **Filed under**: PMLA, 2002
  - **Prepared by**: Enforcement Directorate
  - **Purpose**: Initiation of investigation into offences of money laundering

o **Not shared with accused**: Unlike FIR, ECIR is treated as an internal document		o **No statutory mention**: PMLA does not explicitly define or mandate the ECIR

Key Differences: ECIR vs FIR:

Aspect	FIR (CrPC)	ECIR (PMLA)
Legal recognition	Statutorily defined under CrPC	No mention in PMLA
Copy to the accused	Must be given to the accused	Not mandatorily shared
Judicial oversight	FIR leads to a regular police investigation	ECIR leads to ED investigation
Disclosure	Transparent and publicly accessible	Confidential and classified
Consequences	Arrests and trials under the IPC or other laws	Proceedings for attachment, arrest under PMLA

4.6 SNIPPETS

Topics	Details
QUAD at Sea Ship Observer Mission	• India, along with Japan, the US, and Australia, has launched the first-ever 'QUAD at Sea Ship Observer Mission' under the Wilmington Declaration to boost maritime coordination in the Indo-Pacific. • The QUAD Coast Guard Initiative, launched under the 2024 Wilmington Declaration, enables cross-embarkation of officers from India, Japan, the US, and Australia to enhance maritime interoperability, domain awareness, and regional cooperation, aligning with India's SAGAR and IPOI visions.
INS Tabar	• Indian Navy's INS Tabar responded swiftly to rescue crew members in the Gulf of Oman as a fire broke out on an oil vessel. **Class** • Talwar-class stealth frigate **Country of Origin** • Built in Russia **Commissioning Year** • 2004 **Stealth Feature** • Among the earliest stealth frigates of the Indian Navy **Fleet Assignment** • Western Fleet, based in Mumbai **Command** • Under Western Naval Command **Role in Anti-Piracy** • First Indian naval vessel to take deterrent action against piracy **Anti-Piracy Operations** • Has successfully foiled several pirate attacks **Weapons & Systems** • Sophisticated missile systems, radar, electronic warfare suites **Aviation Capabilities** • Equipped with helicopters for various missions
INS Udaygiri	• Yard 12652 (Udaygiri), the second Project 17A stealth frigate built by MDSL, was delivered to the Indian Navy on 01 July 2025. • **INS Udaygiri,** the second of seven stealth frigates under Project 17A, was delivered

	on July 1, 2025. Built with major indigenous components and advanced stealth features, it enhances India's blue-water naval capabilities under the Aatmanirbhar Bharat initiative.
APACHE	• The Indian Army is set to receive the first batch of long-awaited Apache AH-64E attack helicopters from the US. **About Apache AH-64E:** • The **Apache AH-64E**, also known as the **Apache Guardian**, is the **world's most advanced multi-role combat helicopter**, playing a pivotal role in **modern battlefield operations**, including **advanced reconnaissance**, **precision strikes**, and **close air support**. **Key Facts** **Country of Origin** • United States **Manufacturer** • Boeing **Type** • Multi-role attack helicopter **Variant** • AH-64E – Latest version used by the US Army **Also Used By** • India, Egypt, Israel, UK, Japan, South Korea, UAE, Qatar, and others **Apache in Indian Defence** • **Indian Air Force (IAF)**: Operates **22 AH-64E Apache** helicopters. • **Indian Army**: Agreement signed in 2020 for **6 additional Apaches**. • Enhances India's **precision strike capabilities** along **high-altitude borders**.
AIR LORA	• The IAF is considering acquiring Israel's AIR LORA missile to enhance its long-range precision strike capabilities. **About AIR LORA:** • An **air-launched variant** of the LORA (Long Range Artillery) ballistic missile, developed by **Israel Aerospace Industries (IAI)**. • Suited for **air-to-ground precision strikes**, targeting high-value and heavily defended assets such as command posts, air bases, infrastructure, and naval vessels **Key Specifications:** **Payload** • Up to 600 kg: high-explosive warhead or submunitions **Range** • Approximately 400 km **Speed** • Supersonic **Guidance & Accuracy** • Combines INS/GNSS with anti-jamming, TV terminal guidance—achieving ~10 m CEP
Medium Altitude Long Endurance (MALE) drones	• India is accelerating the procurement of 87 MALE drones from domestic firms to enhance border surveillance. • **MALE (Medium Altitude Long Endurance) drones are indigenous** UAVs with 30+ hour endurance and 35,000 ft altitude, used for real-time ISR and limited combat. They enhance 24×7 surveillance, reduce import reliance, and support border security, maritime ops, and disaster response.

IAF SEPECAT Jaguar	• An IAF SEPECAT Jaguar jet crashed in Rajasthan's Churu district on July 9, killing both pilots on board. • **The SEPECAT Jaguar, known as 'Shamsher' in India, is a twin-engine, deep-penetration strike aircraft developed** jointly by the UK and France. Inducted into the IAF in 1979, around 160 were acquired, with ~120 still in service—making India the only country still operating them.
INS Nistar	• INS Nistar was a submarine rescue vessel acquired by the Indian Navy from the former USSR in 1969 and commissioned in 1971. • **INS Nistar is an indigenously built Diving Support Vessel** by Hindustan Shipyard Limited, designed for submarine rescue, deep-sea diving, and underwater operations. With over 80% indigenous content, it enhances India's strategic autonomy and readiness in the Indian Ocean Region.
Advanced Towed Artillery Gun System (ATAGS)	• 'The Defence Ministry hailed the induction of indigenous ATAGS as a mission-mode success to modernise artillery and replace vintage guns. • ATAGS is a 155mm/52 calibre indigenous towed artillery system developed by DRDO with Tata and Bharat Forge, featuring a 48 km range, rapid deployment, and advanced automation. It boosts India's artillery capability under the Atmanirbhar Bharat initiative.
Astra	• DRDO and IAF successfully flight-tested the indigenous Astra BVRAAM with an RF seeker from a Su-30 Mk-I off the Odisha coast on July 11, 2025. • India successfully tested an indigenous **Beyond Visual Range Air-to-Air Missile (BVRAAM) with a DRDO-developed** RF seeker, integrated on Su-30 Mk-I, showcasing precision target engagement beyond 100 km and robust performance of all subsystems.
Exercise Talisman Sabre 2025 (TS25)	• India is participating in Talisman Sabre 2025, a major Australia-led multinational military exercise that began on July 13. • **Exercise Talisman Sabre 2025 is a biennial multinational** military drill co-hosted by **Australia and the U.S.**, featuring 35,000+ troops from 19 nations, including India. It focuses on multi-domain operations and strategic deterrence in the Indo-Pacific, with India strengthening QUAD ties and regional security cooperation.
Javelin	• The development is also aligned with the 'Make in India' initiative of the government. • The **Javelin is a U.S.-made man-portable anti-tank guided missile** developed by Raytheon and Lockheed Martin. Featuring fire-and-forget infrared guidance, it offers both direct and top-attack modes to destroy armored vehicles and fortified targets with high mobility and minimal exposure.
Exercise Prachand Shakti	• The exercise demonstrated the infantry's use of disruptive technology in Strike Corps operations, highlighting the Army's real-time transformation in combat. • It is conducted by the Indian Army at Meerut, showcased the use of disruptive technologies like UAVs, AI systems, and loitering munitions to enhance infantry agility and lethality. It is part of the **Army's 'Year of Tech Absorption'** initiative, emphasizing tech-driven modern warfare.
INS Sandhayak	• INS Sandhayak made its maiden port call at Port Klang, Malaysia (16–19 July 2025) for hydrographic cooperation. • **INS Sandhayak, a Sandhayak-class hydrographic survey ship commissioned in February 2024**, is equipped for coastal and deep-sea surveys, with added roles in defence and humanitarian support. Built by GRSE Kolkata, it recently made its maiden foreign port visit to Malaysia for technical and hydrographic cooperation.

SIMBEX	• The Singapore-India Maritime Bilateral Exercise (SIMBEX), held annually by the navies of India and Singapore, will take place in Singapore later this month. • SIMBEX is the longest-running bilateral naval exercise of the Indian Navy, conducted annually with the Republic of Singapore Navy since 1994. It strengthens maritime cooperation, enhances interoperability, and supports India's Act East Policy and Vision SAGAR.
INS Nistar and Nipun	• The Indian Navy commissioned INS Nistar at the Naval Dockyard in Visakhapatnam. • **INS Nistar and INS Nipun are indigenously built Diving Support Vessels, commissioned in July 2025**, with advanced deep-sea rescue capabilities including DSRVs and saturation diving systems. They mark India's strategic leap in submarine rescue under Aatmanirbhar Bharat.
Tayfun Block-4	• Turkey unveiled its first hypersonic ballistic missile, Tayfun Block-4, at IDEF 2025 in Istanbul. • Tayfun Block-4 is a **hypersonic ballistic missile** developed by **Turkey's Roketsan**, with a range of up to 800 km and precision accuracy within 5 meters. Designed for strategic strikes, it features GPS-GLONASS-INS guidance and advanced maneuverability.
MIG 21	• Once the backbone of the IAF, the MiG-21s—dubbed 'flying coffins' due to frequent crashes—are now being phased out after decades of service. • The MiG-21, **India's first supersonic jet fighter inducted** in **1963,** was designed by the Soviet Union and extensively built by HAL. Known for its combat legacy in wars from 1965 to Balakot 2019, it remains one of the world's most-produced and battle-tested fighter jets.
Exercise Drone Prahar	• The Indian Army on Sunday conducted a high-tech military drill to validate the integration of drone technology into tactical battlefield operations. • **Exercise Drone Prahar, conducted by the Indian Army at Rayang Military Station in Arunachal Pradesh**, aimed to validate the integration of drone technology into battlefield operations. It focused on ISR, precision targeting, and enhancing situational awareness under realistic conditions.

4.7   ADDITIONAL TOPICS FOR READING FROM IASGYAN WEBSITE

Topics	Date
The Reality of the Changing Dimensions of Warfare	26TH July 2025
Pralay, EXERCISE BOLD KURUKSHETRA 2025	31st July 2025

5. ENVIRONMENT & ECOLOGY

5.1 SOLAR CAPACITY IN INDIA

Context

- India's installed solar capacity has surged by 4,000% over the past decade, stated Minister Piyush Goyal at IESW 2025.

About India's 4000% Growth in Solar Capacity:

- India has witnessed a **remarkable 4000% growth in solar power capacity over the last decade**, as highlighted by Union Minister of Commerce and Industry, Piyush Goyal. This exponential rise signifies not only technological and infrastructural advancement but also India's commitment to sustainability, energy security, and global climate goals.

From Megawatts to Gigawatts:

- India's solar capacity has grown from a meagre **2.6 GW in 2014** to **over 111 GW (including under-construction projects)** by 2024. Out of this, approximately **81 GW has already been commissioned**. The Union Minister emphasized that this rise is part of a broader clean energy vision, where India is marching steadily towards its **renewable energy target of 500 GW by 2030**.

Policy Push and Institutional Support

Initiative/Policy	Year	Objective/Description
National Solar Mission	2010	Aimed to make India a global leader in solar energy; an early catalyst for solar growth.
PLI Scheme for Solar PV Modules	2024	Promotes domestic manufacturing of solar cells/modules; reduces import dependency.
PM-KUSUM Scheme	2019	Focuses on decentralised solar energy through solar pumps and grid-connected power plants.
Solar Park Scheme	2014	Facilitates large-scale solar projects by providing land and necessary infrastructure.
International Solar Alliance (ISA)	2015	Global initiative led by India to promote solar energy; enhances India's clean energy diplomacy.

Economic and Employment Impact

- The solar sector has generated significant **green employment opportunities**, especially in rural and semi-urban areas. From manufacturing and installation to maintenance, the sector has supported lakhs of jobs. Solar also helps reduce power tariffs over time, providing **affordable electricity** to millions, while boosting **energy security** by diversifying energy sources.

Environmental Benefits

- A key driver behind this push has been the need to reduce carbon emissions. The shift towards solar energy supports India's **Nationally Determined Contributions (NDCs)** under the Paris Agreement. With each additional GW of solar capacity, India avoids thousands of tonnes of carbon dioxide emissions, contributing to a **greener and more sustainable economy**.

Challenges Ahead

- Despite progress, challenges persist:
  - **Intermittency** of solar energy due to weather and time-of-day limitations.
  - **Grid integration** and infrastructure constraints.
  - **Land acquisition** issues for large-scale projects.
  - **Dependence on imported solar components**, although this is being addressed via PLI schemes and 'Atmanirbhar Bharat' initiatives.

Way Forward

- To build on this momentum, India needs:
  - Strengthened **energy storage solutions** (like battery technology) to tackle intermittency.
  - Continued investment in **grid modernization**.
  - Promotion of **rooftop solar** to democratize solar adoption.
  - International collaboration for **technology transfer** and financing.

Conclusion

- India's 4000% growth in solar capacity over a decade stands as a **testament to visionary policymaking, public-private partnerships, and citizen participation**. With a firm eye on the 2030 targets and a robust renewable energy ecosystem in the making, India is poised to emerge not just as a solar superpower but also as a global leader in the energy transition.

5.2   DEBT'S CLIMATE LINK

Context

- As the fourth International Conference on Financing for Development (FfD4) kicks off in Seville, Spain, we look at how a massive debt burden on developing countries is holding them back.

About the International Conference on Financing for Development (FfD4)

Aspect	Details
What It Is	A United Nations-led global forum to address sustainable development financing gaps and reform global economic governance.
Host	Seville, Spain, in 2025 under the aegis of the United Nations Department of Economic and Social Affairs (UNDESA).
Objective	• Align development finance with climate goals • Restore trust between developed and developing nations • Create equitable financial systems
Key Features of FfD4	• **Multi-Stakeholder Engagement**: Participation of governments, MDBs, civil society, think tanks, etc. • **Reform-Oriented Agenda**: Restructuring Multilateral Development Banks (MDBs); addressing debt, taxation, and financial accountability • **Climate Integration**: Sets stage for synchronized financial and climate strategies ahead of COP30.

Debt-Climate Nexus

- The link between debt and climate is not incidental. Developing countries frequently suffer **extreme climate events** like floods, hurricanes, and droughts, causing widespread destruction of infrastructure, livelihoods, and

ecosystems. To recover, these countries often take on **emergency loans**—increasing their external debt burden.

- At the same time, they need financing to invest in **adaptation** and **mitigation** strategies to build resilience. However, limited fiscal space and high debt servicing costs **constrain climate action**. The UN has identified this as a structural problem: **climate vulnerability and fiscal constraints reinforce each other**, keeping developing countries trapped in a cycle of dependence.

Who Profits from the Debt?

- While the countries of the Global South struggle to cope, **private lenders**, **investment funds**, and certain **multilateral institutions** profit from high interest rates and restructuring programs. According to **Debt Justice**, private creditors charge interest rates as high as **12.5%**, compared to **1%** from bilateral lenders.
- Furthermore, climate finance commitments by developed countries—promised as **grants** or **concessional aid** under the Paris Agreement—often arrive as **loans**, adding to the debt burden. For example, **over 70% of climate finance to developing countries** comes in the form of repayable loans.

Case Studies

- **Pakistan:** After devastating floods in 2022, the country faced damages worth over **$30 billion**, yet debt servicing obligations forced it to spend more on repayments than on recovery and adaptation.
- **Zambia:** The country defaulted on its sovereign debt in 2020 amid the pandemic and climate stress. Private lenders held out during restructuring negotiations, delaying relief.

- **Barbados:** Prime Minister Mia Mottley has spearheaded the **Bridgetown Initiative**, demanding reform in global financial institutions to enable climate-resilient development without increasing debt dependency.

Global Financial Architecture:

- There is a growing consensus that the **global financial system is skewed** in favor of wealthy nations and investors. Institutions like the **International Monetary Fund (IMF)** and the **World Bank** often promote **austerity measures** during debt restructuring, further weakening public infrastructure and climate resilience in debtor countries.

Key reforms suggested include:

- **Debt-for-climate swaps**: Redirecting debt repayments into local climate initiatives.
- **Green concessional finance**: Providing grants or low-interest loans for adaptation.
- **Loss and Damage Fund**: Operationalised at COP28, but needs scaled-up, predictable funding from historical emitters.

India's Position

- India, as a developing country with increasing global influence, advocates for **climate equity** and **climate finance justice**. At forums like the **G20** and **COP summits**, India has called for **restructuring global debt mechanisms** and for developed countries to fulfill their **$100 billion climate finance commitment**.
- Moreover, India's **International Solar Alliance** and **Coalition for Disaster Resilient Infrastructure** promote South-South cooperation in climate adaptation without reliance on debt-heavy models.

5.3   CORALS IN INDIA

Context

- A Scientific journal documents Visakhapatnam's coral reefs in a research study done by the Zoological Survey of India.

About Coral Reefs

- **Coral reefs are vital marine ecosystems**—biodiversity hotspots, coastal protectors, and sources of fisheries and eco-tourism. In India, well-recognized coral regions include the Andaman & Nicobar Islands, the Gulf of Mannar, the Gulf of Kachchh, and Lakshadweep. Until now, Andhra Pradesh has remained -documented in this regard.

About the facts observed in the study:

- <u>Duration & Approach</u>: Conducted from **2019 to 2023** along the Visakhapatnam coast, the study encompassed **15 SCUBA-surveyed subsites** spanning Pudimadaka, Rushikonda, Mangamari Peta, and Chintapalle beaches.
- <u>Techniques Employed</u>: Underwater digital photography and the Coral Video Transect (CVT) method were used to assess live versus bleached/dead coral coverage. Data were analyzed using statistical tools (PCA via PAST software).

Key Observations
Coral Diversity and Live Coral Cover – Visakhapatnam Coast

Parameter	Details
Total Coral Species	15 species across 12 genera and 9 families
Prominent Families	Poritidae, Agariciidae, Dendrophylliidae

Live Coral Cover at Different Sites

Location	Live Coral Cover (%)	Remarks
Chintapalle	23%	Highest coral cover
Rushikonda	20%	High cover, rich diversity
Pudimadaka	15%	Moderate cover
Mangamari Peta	5%	Lowest coral cover

Site Clustering (Based on PCA Analysis)

Cluster Group	Sites Included	Characteristics
Cluster 1	Chintapalle, Rushikonda	Higher species diversity and coral cover
Cluster 2	Pudimadaka, Mangamari Peta	Lower species diversity and coral cover

Conservation Implications:

- <u>Scientific Recognition</u>: This is the **first systematic documentation** of live reefs along Andhra Pradesh's coast, as recorded in a peer-reviewed journal.
- <u>Ecosystem Services</u>: The findings underscore coral reefs' roles in shoreline protection, fisheries productivity, and sustenance of marine biodiversity.
- <u>Threats</u>: Climate change, ocean acidification, coastal pollution, and overfishing threaten coral health and resilience.

Recommendations

- Expand **routine monitoring programs** across Andhra Pradesh's coastal sites.
- Implement **Census of Marine Life-style surveys**, and enforce **Coastal Regulation Zone (CRZ)** norms to limit habitat-degrading activities.
- Initiate **community-based conservation**—engaging local fishers, tourism operators, and NGOs.
- Promote **awareness and eco-tourism** networks in synergy with organizations such as the **Dolphin Nature Conservation Society**, which already runs biodiversity initiatives from Visakhapatnam.

- The recognition of live coral communities along Andhra Pradesh's coastline marks a **landmark for marine research**. With up to **23% coral cover** at Chintapalle and diverse species observed, the region demands **urgent conservation, structured monitoring, and policy action**.

5.4 RULES FOR CONTAMINATED SITES' MANAGEMENT

Context
- The new rules mandate district administrations to submit biannual reports on suspected contaminated sites as part of formalizing the site management process.

Background
- On **July 26, 2025**, the **Ministry of Environment, Forest and Climate Change (MoEF&CC)** notified the **Environment Protection and the Management of Contaminated Sites Rules, 2025** under the **Environment (Protection) Act, 1986**. These rules aim to address the longstanding issue of contaminated sites in India through a structured framework involving identification, assessment, remediation, and post-remediation monitoring.

Why Was There a Need for These Rules?
- **Rising Industrial Pollution**: Unchecked disposal of hazardous chemicals and waste by industries has led to soil, water, and groundwater contamination across various industrial clusters.
- **Lack of Remediation Framework**: While environmental clearance and waste management rules existed, there was no uniform legal framework for remediation of contaminated sites.
- **Public Health Hazard**: Exposure to contaminated land poses serious risks to human health, agriculture, and biodiversity.
- **International Best Practices**: India lacked a regulatory framework comparable to countries like the USA (CERCLA) and the EU (Environmental Liability Directive).

Key Features of the Rules
Definition of Contaminated Sites
- Sites where hazardous substances exceed permissible levels, causing potential environmental and health hazards.
Identification and Notification
- SPCBs and PCCs to conduct preliminary environmental site assessments and notify MoEF&CC of suspected contaminated sites.
Remediation Process
- Involves **detailed site assessment**, preparation of **remediation action plans**, and **implementation** under regulatory oversight.
Liability and Cost Recovery
- The **Polluter Pays Principle** is upheld. Site occupiers or responsible parties bear the cost of remediation.
Contaminated Sites Inventory
- Establishment of a **centralized national inventory** of such sites by CPCB.
Institutional Framework
- A **National Committee for the Management of Contaminated Sites** is to be constituted, chaired by MoEF&CC Secretary.
Role of Technology
- Emphasis on use of **geo-spatial tools, risk assessment models, and green remediation technologies**.

Institutional Responsibilities
- **MoEF&CC:** Rulemaking, oversight, and final approval of site remediation.
- **CPCB:** Preparing and maintaining national inventory; issuing guidelines and standards.
- **State Pollution Control Boards (SPCBs) / Pollution Control Committees (PCCs):** Ground-level implementation, inspection, and reporting.
- **Occupiers:** Entities responsible for contamination are obligated to remediate or bear remediation costs.

Significance of the Rules

- **Strengthens Environmental Governance**: Provides a legal mandate for remediation, aligning India's approach with global standards.
- **Public Health Protection**: Reduces health risks to communities living around toxic zones.
- **Supports Sustainable Development**: Encourages **Brownfield redevelopment** (reuse of contaminated industrial sites) while ensuring environmental safeguards.
- **Fulfils International Commitments**: Supports India's commitment to the **Stockholm Convention** and **Basel Convention** on hazardous wastes and POPs.

Challenges in Implementation

- **Lack of Capacity and Funding**: State boards may lack technical expertise and financial resources for detailed assessments.
- **Industrial Pushback**: Industries may resist compliance due to cost implications.
- **Data Gaps**: Absence of historical contamination data and difficulty in identifying "legacy polluters."
- **Enforcement**: Monitoring and enforcement will depend on coordination between multiple agencies.

Way Forward

- **Capacity Building**: Train SPCBs and create a cadre of environmental remediation professionals.
- **Technology Use**: Integrate GIS mapping, remote sensing, and AI-based contamination modeling.
- **Public Participation**: Involve local communities in site identification and monitoring.
- **Financial Mechanisms**: Establish a **National Remediation Fund** through contributions from industries and environmental cess.

Conclusion

- The Environment Protection and Management of Contaminated Sites Rules, 2025 mark a **critical shift** in India's environmental regulatory landscape. By proactively identifying and remediating polluted sites, the government takes a **landmark step toward environmental justice**, industrial accountability, and sustainable land use. However, the **success of this framework** will hinge on its **effective implementation**, **institutional coordination**, and **community engagement**.

5.5 HOW CAN MELTING GLACIERS LEAD TO MORE VOLCANIC ERUPTIONS?

Context

- A 2025 Goldschmidt Conference study warns of a feedback loop where climate change may trigger increased volcanic activity.

Introduction

- Climate change is increasingly being recognized not only for its immediate environmental effects but also for its potential to trigger geological hazards. A new study presented at the **2025 Goldschmidt Conference in Prague** draws attention to the emerging risk of **increased volcanic activity due to glacial melting**. This highlights a **potential feedback loop** between climate change and Earth's internal processes.

Mechanism of Interaction:

- **Glacial Pressure and Magma Dynamics:** Under normal circumstances, the **weight of thick glaciers** acts as a cap on the Earth's crust, **suppressing volcanic eruptions**. The mass of ice exerts **pressure** that keeps **magma trapped** in chambers beneath the surface.
- **Melting of Glaciers:** As global temperatures rise due to anthropogenic emissions, glaciers across the world — including those in **Iceland, Alaska, Antarctica, and the Himalayas** — are melting at an accelerating rate. This **reduces the surface pressure** on the crust.
- **Volcanic Response:** Reduced pressure allows magma to **rise more freely** and can **decrease the boiling point of volatile compounds**, such

as water and carbon dioxide, within the magma. This process may **increase the likelihood of explosive eruptions**.

Scientific Observations and Concerns

- The study emphasizes that many **volcanic systems lie beneath ice caps**, especially in **Iceland** and parts of the **Pacific Northwest**.
- **Historical precedence** exists. For instance, past **interglacial periods** have witnessed **increased volcanic activity**, indicating a pattern between glacial retreat and eruptions.
- The potential for **climate-induced eruptions** adds to the challenges of disaster preparedness in areas previously considered stable.

India's Relevance and Preparedness

- **Himalayan Region:** While India does not have active volcanoes in the mainland Himalayas, **glacial retreat** in this region can influence **seismic and geothermal activity**. The **Himalayas are tectonically active**, and the role of ice mass balance could become significant.
- **Volcanic Monitoring:** India has a few known volcanic sites, such as **Barren Island (Andaman & Nicobar Islands)**. The National Centre for Seismology and the India Meteorological Department (IMD) monitor such activity, but **capacity building is essential** to monitor **climate-geology interactions**.

Way Forward

Global Monitoring
- Integrate climate models with glacial melt, seismic, and volcanic activity monitoring.

Scientific Infrastructure
- Invest in high-altitude stations, enhance remote sensing, and foster international collaboration.

Policy Implications
- Include compound risks in disaster planning; link climate resilience with geological hazard management.

Conclusion

- The intersection of climate change and geology presents a new frontier of risk that demands urgent attention. The **melting of glaciers not only raises sea levels and disrupts ecosystems but also potentially awakens dormant volcanic systems**. Understanding and preparing for such interlinked threats is vital for ensuring sustainable human development and disaster resilience.

5.6 WHY THE UNFCCC PROCESS MUST BE REFORMED?

Context

- UNFCCC reform, climate governance, Paris Agreement flaws, global climate policy, consensus-based decision, loss and damage, climate justice.

Introduction

- The **United Nations Framework Convention on Climate Change (UNFCCC)**, adopted in 1992 at the Rio Earth Summit, has served as the principal global platform for negotiating climate action.
- Despite landmark achievements like the **Kyoto Protocol (1997)** and the **Paris Agreement (2015)**, growing climate crises, geopolitical tensions, and unequal developmental priorities among countries have exposed the **structural and functional limitations** of the UNFCCC process.

Why Is Reform Needed?

1. Consensus-Based Decision-Making
- The UNFCCC operates on the principle of **consensus**, where even a single country can block a decision. While this ensures inclusivity, it **slows down decision-making**, especially when dealing with ambitious targets or contentious issues like **climate finance** and **loss and damage**.
- For instance, in recent climate summits, **oil-exporting countries** have blocked language on fossil fuel phase-out, despite overwhelming

support from other nations. As climate change becomes more urgent, **consensus as a tool is becoming a bottleneck**.

2. North-South Divide

- There is a growing sense of **climate injustice** among developing countries. While the **Global North** is historically responsible for emissions, it often sets ambitious climate targets that may not align with the **developmental needs** of the **Global South**.
- The failure of developed countries to deliver the promised **$100 billion/year** in climate finance and the **slow progress on the Loss and Damage fund** have only deepened mistrust. Moreover, stringent emission targets and net-zero pledges, often without the transfer of

adequate technology or finance, are perceived as **neo-colonial impositions**.

3. Voluntary Commitments under the Paris Agreement

- The **Paris Agreement's** bottom-up approach, where countries submit **Nationally Determined Contributions (NDCs)**, lacks an **enforcement mechanism**. While it respects national sovereignty, this model has led to **weak commitments**, **inadequate implementation**, and **lack of accountability**.
- As per the **UNEP Emissions Gap Report**, current NDCs are grossly insufficient to limit warming to **1.5°C**, risking catastrophic consequences.

Major Challenges in Reforming the UNFCCC

Challenge	Description
Differing Priorities	Developed nations focus on emission cuts and net-zero targets; developing nations stress adaptation, finance, and equity.
Fragmentation of Climate Forums	Emergence of platforms like G7, G20, and Clean Energy Ministerial diffuses responsibility, sidelining UNFCCC.
Geopolitical Conflicts	Tensions among major emitters (US, China, EU), the Russia-Ukraine war, and pandemic impacts hinder global climate cooperation.

Proposals for Reform

Reform Area	Key Action Points
Redesigning Consensus Mechanism	Introduce qualified majority voting for procedural matters; retain consensus for core decisions.
Strengthening Institutional Architecture	Create a Permanent Scientific-Policy Interface under UNFCCC, akin to the IPCC.
Enhancing Compliance Mechanisms	Develop transparent compliance with peer reviews, incentives for over performance, and penalties.
Empowering Vulnerable Nations	Amplify SIDS & LDC voices; consider a dedicated Climate Justice Council.
Finance and Technology Transfer	Operationalize the Loss and Damage Fund, expedite green tech transfer, and promote tools like green bonds.

India's Role in the Reform Agenda

- India has consistently advocated for **Climate Justice**, **Common But Differentiated Responsibilities (CBDR)**, and **equity-based climate governance**. At COP summits, India has emphasized **lifestyle changes (LiFE Mission)**, **just transitions**, and **climate-resilient development**.
- With its G20 presidency and growing leadership in forums like the **International Solar Alliance (ISA)** and **Coalition for Disaster Resilient Infrastructure (CDRI)**, India can **champion inclusive and equity-based reforms** in the global climate regime.

Conclusion

- The UNFCCC has laid the foundation for global climate cooperation. However, to make it relevant in the **decisive decade** of climate action, **structural reforms are indispensable**. It must evolve into a **dynamic, responsive, and equitable institution**, capable of confronting the complexities of 21st-century climate governance. A **re-imagined UNFCCC** can restore trust, accelerate ambition, and deliver on the global promise of a sustainable future.

5.7   INDIA ACHIEVES 50% GREEN ENERGY MILESTONE

Context

- India has achieved 50% of its power capacity from non-fossil sources, but actual clean energy generation remains below 30%.

Background:

- As on 30 June 2025, non-fossil sources account for **50.08 % of India's 484.8 GW installed electricity capacity**—five years ahead of the Paris- pledged 2030 target.
- These sources deliver **only ≈28–30 % of the electricity actually generated**, so coal still meets roughly 70 % of demand.
- Achieving headline capacity is a climate - diplomacy win, but the utilisation gap threatens energy security, fiscal health of DISCOMs, and Net-Zero credibility.

How India Reached 50 % Capacity So Early:

Driver	Illustrative Policy / Action	Impact
Clear political signal	Raised Nationally Determined Contribution (NDC) in 2021; 500 GW non-fossil by 2030	Attracted global & domestic capital
Incentive architecture	Production-Linked Incentive (PLI) for solar modules; Renewable Purchase Obligation; ISTS fee waiver	Cut project costs, ensured market
Private-sector execution	IPPs such as Adani Green, ReNew, Greenko scaled solar-wind-hybrid parks	Added >15 GW in FY-25 alone
International finance & tech	ISA, JET-P, multilaterals	Concessional loans, know-how

Why Generation Lags Behind:

Factor	Explanation	Evidence
Low Capacity Utilisation Factor (CUF)	Solar CUF ≈ 18-21 %, wind ≈ 25 %, vs coal ≈ 60 %	-
Intermittency & seasonal skew	Solar peaks midday; wind peaks monsoon nights; mismatch with evening demand	Load curves show coal still supplies 75 % after sunset
Storage deficit	< 5 GWh grid- scale BESS; pumped-hydro pipeline slow	Limits round-the-clock renewable supply
Grid inflexibility	Legacy transmission, weak last-mile; curtailment in RE-rich states	3–5 % of RE generation curtailed in 2024-25

Financially stressed DISCOMs	Prefer cheaper legacy coal PPAs to variable RE tariffs	Delays signing new PPAs

Implications

- **Energy Security:** Diversifies primary mix, cuts import bill, but intermittency may force more LNG/coal spot purchases during peaks.
- **Economy & Jobs:** Renewable manufacturing, EPC, and O&M already employ >300,000; potential >1 million by 2030.
- **Climate & Diplomacy:** Enhances India's voice in G-20 and COP-30 negotiations; credibility now hinges on increasing delivered clean kWh, not just MW.

Global Lessons & Domestic Case Studies

- **Germany's storage push**—4 GW batteries integrated with smart tariffs stabilise a 55 % RE grid.
- **Australia's hybrid parks**—Hornsdale (solar + wind + battery) supplies >50 % of South Australia's load reliably.
- **Tamil Nadu's wind-solar coupling** shows CUF gains of 6–8 % when sharing evacuation lines.

Way Forward

- **Scale Storage Fast** – Tender 50 GWh BESS and 10 GW pumped-hydro by 2028; mandate storage in all new RE parks.

- **Flexible Thermal Fleet** – Retrofit coal & gas plants for 55 % minimum load and faster ramp rates.
- **Demand-Side Management** – National time-of-day tariffs, smart meters, and industrial demand-response to shift 15 GW evening peak.
- **Grid Modernisation** – Green Energy Corridor-II, region-wise balancing markets, and HVDC lines from RE resource hubs.
- **Distributed & Rooftop Solar** – 40 GW rooftop target with net-billing to cut T&D losses and daytime urban peaks.
- **Manufacturing & Recycling** – Enforce domestic content requirement only with parallel e-waste and end-of-life recycling rules for panels and batteries.

Conclusion

- Crossing the 50 % capacity threshold ahead of time confirms India's capability to mobilise policy, finance, and technology at scale. The next frontier is **converting installed megawatts into dependable megawatt-hours** through storage, smarter grids, and demand flexibility. Only then will the numbers on paper translate into cleaner air, lower emissions, and resilient economic growth.

5.8   SHORT ARTICLES

FRA and Forest Loss

Context

- Recently, the Union Minister for Environment, Forest and Climate Change stated that the implementation of the Forest Rights Act (FRA), 2006, has led to forest loss.

About the Forest Rights Act (FRA), 2006:

- The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006—popularly known as the Forest Rights Act—was enacted to correct the historical injustice faced by forest-dwelling Scheduled Tribes and other traditional forest dwellers.

Key Provisions:

- **Individual Forest Rights (IFRs):** Rights to hold and live in forest land for habitation or self-cultivation.
- **Community Forest Rights (CFRs):** Rights to manage, protect, and conserve forest resources.
- **Right to Minor Forest Produce (MFP):** Entitles communities to collect, use, and sell forest products.

- **Recognition Process:** Involves Gram Sabhas, Sub-Divisional Committees, and District-Level Committees.

Recent Controversy

- On June 25, 2024, the Environment Minister claimed that forest degradation has increased in areas where forest rights have been granted. This was presented as a reason for cautious implementation of FRA.

Civil Society's Response

- Over 70 organisations, including forest rights groups and legal experts, countered the Minister's claim. Their main arguments include:
  1. **Misrepresentation of Data:** No conclusive evidence shows a causal link between FRA and deforestation.
  2. **Success of CFR Areas:** Studies show areas under CFR management have better forest cover and biodiversity outcomes due to community stewardship.
  3. **Violation of Constitutional Rights:** Undermining FRA threatens the constitutional and legal rights of Adivasis and forest dwellers.
  4. **Dilution of FRA Implementation:** Slow recognition of rights and illegal diversion of forest land for development projects remain key threats—not the act itself.

Key Facts:

Year of Enactment of FRA

- 2006

Administering Ministry

- Ministry of Tribal Affairs

Gram Sabha's Role

- Primary authority to initiate and approve forest rights claims

Schedule V Areas

- FRA plays a major role in empowering tribal governance

States with High CFR Potential

- Odisha, Maharashtra, Chhattisgarh, Madhya Pradesh

% of Forest Land under Community Rights (as of 2023)

- Less than 5% of the potential 40 million hectares recognized

Drought hotspots

Context

- Global climate patterns in 2023 and 2024 set the stage for severe drought impacts worldwide that are continuing into 2025.

Details:

- The UN and U.S. National Drought Mitigation Center (NDMC), in partnership with UNCCD and the International Drought Resilience Alliance, released a comprehensive report on July 2, 2025. It identifies critical "drought hotspots" from 2023–2025, underscoring intensifying droughts worldwide fueled by climate change and the 2023–2024 El Niño event.

Driving Factors:

- **Climate Change & Rising Temperatures**: Global temperature rises have made drought conditions more severe and frequent.
- **El Niño-Southern Oscillation (ENSO)**: The 2023–2024 El Niño amplified dryness and heat, especially in Africa, the Amazon, and Latin America.

Key Drought Hotspots

Region	Affected Countries/Areas	Key Impacts
Africa (Eastern & Southern)	Somalia, Ethiopia, Zimbabwe, Zambia, Malawi, Botswana, Namibia	- Over **90 million** facing acute hunger - **68 million** in Southern Africa needing food aid by **August 2024**
	Zimbabwe	- Corn crop down **70%** - Maize prices doubled- **9,000 cattle** died

	Zambia	- **Zambezi River** fell to 20% of average - **Kariba Dam** at 7% capacity → **21-hour blackouts**
	Somalia	- 2021–2023 drought caused **~43,000 excess deaths**- **4.4 million** people facing crisis-level food insecurity
Latin America & Amazon Basin	Amazon River Basin (Brazil, Peru, Colombia, etc.)	- Record-low river levels → **mass fish & dolphin deaths** - Disruption in **transport & drinking water** for hundreds of thousands
	Rio Negro	- Dropped to the **lowest level in a century** (Nov 2023)
	General (South America)	- Severe drought triggered **wildfires** in early **2025**
Mediterranean & Middle East	Spain, Morocco, Turkey	- **Spain**: Olive crop down **50%**, olive oil prices doubled - **Morocco**: Sheep population declined **38%** since 2016 - **Turkey**: Groundwater depletion caused **sinkholes**
Southeast Asia	Thailand, India, others	- Drought affected **rice, coffee, sugar** crops - Triggered **global rise** in sugar/sweets prices

CFR Management plans

Context
- The Ministry of Tribal Affairs (MoTA) reaffirmed that **only Gram Sabhas**have the authority to prepare **Community Forest Resource (CFR) management plans**, not government departments.

Background
- **May 2025:** Chhattisgarh Forest Dept issued an advisory halting NGOs/govt. bodies from preparing CFR plans, awaiting "scientific" plans per **National Working Plan Code (NWPC) 2023**.
- Contradicted **Forest Rights Act (FRA) 2006**, which empowers **Gram Sabhas** to manage forest resources.

Legal Conflict
- **FRA 2006 + Rule 12A(6):**
  o CFR rights lie with **Gram Sabhas**.
  o Forest Dept must only assist (maps, tech aid), **not control** CFR plans.

Administrative Clash
- **Forest Dept:** Claimed central model plans were needed first.
- **Tribal Welfare Dept:** Opposed, cited FRA and Gram Sabha primacy.
- **Result:** Institutional turf war; bureaucratic overreach exposed.

Policy Impacts

Area	Before Advisory	After Advisory	After Withdrawal
Gram Sabha Rights	Empowered by FRA	Undermined	**Restored**
CFR Work (e.g. DAJGUA)	Active	Paused in 9+ districts	**Resumed**
Dept Relations	Collaborative	Turf war	**Coordination revived**
Central Guidelines	Awaited	Misused as delay excuse	**Still awaited**

Way Forward
- **Central CFR Guidelines:** MoTA + MoEFCC must issue model plans urgently.
- **Reinforce Gram Sabha Role:** FRA Rule 12A(6) must be upheld.

- **Dept Synergy:** Tribal, Forest, Panchayati Raj Depts must coordinate.
- **Capacity Building:** Gram Sabhas need training, NGO aid, technical support.

Roll Cloud

Context

- A rare roll cloud appeared over Portugal's coast, surprising beachgoers as strong winds hit during an ongoing extreme heatwave.

What is a Roll Cloud?

- **A *roll cloud* is a type of *arcus cloud*,** a low, horizontal cloud formation typically associated with the leading edge of a thunderstorm outflow or cold front. These clouds appear as a horizontal tube that rolls about a horizontal axis and usually moves independently of the storm system.
    - **Classification:** Roll clouds are different from shelf clouds, although both are part of the arcus category.
    - **Appearance:** They appear as elongated, cylindrical, and tube-like structures.
    - **Altitude:** Usually low-lying, formed at altitudes ranging from 300 to 2,000 meters.

Commonly Seen In:

- Coastal regions where **oceanic and continental air masses** interact
- Frequently observed over the Plains in the U.S., the Gulf of Carpentaria in Australia, and the Atlantic coasts of Europe.

How do Roll Clouds Form?

Contrasting Air Masses

- Interaction between cool, moist maritime air and hot, dry continental air.

Thermal Inversion

- Cool air trapped below warm air; restricts vertical convection.

Atmospheric Gravity Waves

- Triggered by undercutting dense air; causes oscillations in lower atmosphere.

Adiabatic Cooling & Condensation

- Rising air cools adiabatically → condensation; sinking air remains dry.

Cloud Structure

- Horizontal, cylindrical cloud detached from main cloud systems.

Geographic Zones

- Coastal areas with sharp marine-continental boundaries.

Alignment & Wind Influence

- Aligns parallel to low-level winds; influenced by sea/land breeze fronts.

International Treaty on Plant Genetic Resources for Food and Agriculture

Context

- The discussions are part of the UN's International Treaty on Plant Genetic Resources for Food and Agriculture (PGRFA), commonly known as the Plant Treaty.

What is the International Treaty on Plant Genetic Resources for Food and Agriculture?

- A legally binding treaty adopted by FAO on **3 November 2001** (31st FAO Conference, Rome), entered into force **29 June 2004**.
- Also known as the **Plant Treaty** or **International Seed Treaty**.

Objectives

- Conserve and sustainably use global plant genetic resources for food and agriculture (PGRFA).
- Ensure **fair and equitable benefit-sharing** arising from their use.
- Recognise and promote **farmers' rights**

Membership

- Currently **151 contracting parties** (150 states + EU) as of Feb 2024.
- **India** is a full member

Major Elements

a) Multilateral System (MLS)

- Covers **64 key crops (Annex 1: major food & forage species)**
- Facilitates free access for research, breeding, conservation, and training
- Governed by **Standard Material Transfer Agreement (SMTA)**; no IP rights can be claimed on materials in original form

b) Farmers' Rights (Article 9)

- Protection of traditional knowledge

- Participation in benefit-sharing mechanisms
- Rights to save, use, exchange, and sell farm-saved seeds (as per national laws)

c) Global Information System (GLIS) (Article 17)

- Platform for sharing information on Plant Genetic Resources for Food and Agriculture (PGRFA) internationally

d) Benefit-Sharing Fund (BSF)

- Supports projects (especially in developing countries) for conservation, sustainable use, pest resistance, and climate resilience

e) Governing Body

- Meets regularly under FAO
- Provides guidance and oversees treaty implementation

Guidelines on declaring ESZ

Context

- The SC-NBWL will revisit the 2011 ESZ guidelines to adopt a more site-specific, ecologically and socio-economically balanced approach.

Background:

- Eco-Sensitive Zones (ESZs), conceived in the 2002 Wildlife Conservation Strategy and codified through the **Ministry of Environment, Forest and Climate Change (MoEFCC) guidelines (2011),** serve as buffer zones around protected areas to restrict harmful activities and safeguard biodiversity.

Why the Review Now?

- In a June 26 meeting, the Standing Committee of the National Board for Wildlife (SC-NBWL), chaired by Union Environment Minister Bhupender Yadav, recommended a review of ESZ norms to adopt a more "flexible" and "site-specific" framework, better aligned with local ecological and socio-economic realities.

Issues with the Existing Framework:

- **Blanket 10 km buffer**: The uniform 10 km ESZ limit is seen as "rigid", especially in regions like urban national parks (e.g., Sanjay Gandhi, Asola Bhatti) or forest-intensive states (e.g., Himachal Pradesh) where such zones could stifle necessary development without delivering meaningful ecological gains.
- **Marine ecosystems overlooked**: ESZs, mainly designed for terrestrial areas, inadequately protect marine sanctuaries, according to experts at the Wildlife Institute of India.
- **Local livelihoods and development impact**: State wildlife wardens flagged hardships for communities—mining bans, housing, tourism limitations—without compensation, and noted that ESZ provisions can delay notifications for new protected areas.

Proposed Reforms

SC-NBWL recommended the following actions:

Key Aspect	Revised ESZ Guideline Proposal
Site-Specific Demarcation	Based on local ecology, human settlements, geography, and economic needs, replaces a uniform buffer.
Phased Implementation	States (e.g., Karnataka) seek a 2-year transition for ongoing activities before new restrictions apply.
Holistic Consultations	Multi-stakeholder input from states, ministries, experts, and local communities for new guidelines.
Cross-Sectoral Oversight	Chief Wildlife Wardens to monitor compliance in cleared projects (mining, roads, railways); violations paused.
Zonal Differentiation	Stronger ecological protections in core (e.g., rivers, headwaters); controlled eco-tourism, renewables in buffer zones.

5.9 SNIPPETS

NATIONAL PARKS/SANCTUARIES/WETLANDS/RESERVES IN NEWS	
India's First Butterfly Sanctuary	India's first Butterfly Sanctuary at Aralam Wildlife Sanctuary in Kerala hosts over 266 butterfly species, including rare migrants like the Common Albatross. It plays a vital role in conservation, eco-tourism, and research, highlighting the ecological richness of the Western Ghats.
Bukkapatna Chinkara Wildlife Sanctuary	Bukkapatna Chinkara Wildlife Sanctuary in Tumakuru, Karnataka, established in 2019, protects the Indian Gazelle and dryland biodiversity. It features wooded savannahs, grassland flora, and hosts species like chinkara, blackbuck, and sloth bear.
Sharavathi Valley Lion-Tailed Macaque Wildlife Sanctuary	**Sharavathi Lion-Tailed Macaque Wildlife Sanctuary**, located in **Karnataka's Western Ghats**, is rich in tropical forests and endemic wildlife. It is a crucial habitat for the endangered lion-tailed macaque and other key species like tigers and leopards.
Shettihalli Wildlife Sanctuary	**Shettihalli Wildlife Sanctuary,** located in Shimoga, Karnataka, is a biodiverse haven with dry and moist deciduous forests, home to tigers, elephants, and rich birdlife. It includes Tunga Anicut Dam and Mandagadde Bird Sanctuary, supporting aquatic and avian species.
Kanniyakumari WLS	Kanniyakumari Wildlife Sanctuary, located at India's southern tip in Tamil Nadu, is a biodiversity-rich reserve known for its varied vegetation, river origins, and endemic fauna.

SPECIES IN NEWS	
Asiatic wild dog	The Asiatic wild dog (Cuon alpinus), or dhole, is an endangered, highly social predator found across forested regions of Asia, including India's Western and Eastern Ghats. Known for its rusty-red coat and matriarchal packs, it plays a crucial role in maintaining ecosystem balance by regulating prey populations.
Black-headed caterpillar	The Black-Headed Caterpillar (Opisinaarenosella) is a major coconut pest in South and Southeast Asia, feeding on leaf tissue and reducing photosynthesis, leading to poor yield. Peak infestations occur in hot summers, and integrated pest management includes neem-based sprays, biological control with parasitoid wasps, and pruning of affected fronds.
Begonia nyishiorum	**Begonia nyishiorum** is a rare, high-altitude plant endemic to Arunachal Pradesh, notable for its unique crimson-fringed petioles and dense indumentum. It honours the Nyishi tribe and underscores the ecological value of undisturbed Himalayan forests.
Smith's witch eel	Facciolella smithi, or Smith's witch eel, is a deep-sea benthic eel discovered off Kerala's coast, notable for its ribbon-like body and tail regeneration. Named after ichthyologist Dr. David G. Smith, it inhabits depths of 260–460 meters in the Arabian Sea.
White-eared night heron	The White-Eared Night Heron (Oroanassamagnifica) is a rare, nocturnal bird found in southern China and northern Vietnam. With fewer than 1,000 individuals, it is classified as Endangered on the IUCN Red List.
Garcinia kusumae	**Garcinia kusumae**, locally known as Thoikora, is a newly identified evergreen tree named after Kusum Devi, thriving in lowland tropical rainforests of Assam. It

	belongs to the Garcinia genus known for its ecological, cultural, and pharmacological significance.
Pethiadibrugarhensis	**Pethiadibrugarhensis** is an endangered freshwater fish endemic to Assam's Dihing River, notable for its incomplete lateral line and distinct tail blotch. It faces threats from habitat degradation, pollution, and sand minin.
Bariliusimphalensis	**Bariliusimphalensis**, locally known as *Ngawa*, is a freshwater fish endemic to Manipur's Imphal River, marked by short blue bars, no barbels, and a complete lateral line with 41 scales. It thrives in shallow, clear streams with gravel beds and riverbank vegetation.
Water hyacinth	Water Hyacinth (Eichhornia crassipes), a South American aquatic plant introduced during British rule, is now an invasive species clogging Indian water bodies. Despite its environmental threat, it's used in phytoremediation and as a bio-fertilizer.
Caracal	The Caracal (Caracal caracal), locally known as Siya gosh, is a rare, nocturnal wild cat found in parts of Rajasthan and Gujarat with fewer than 50 individuals in India. Despite being listed as "Least Concern" by IUCN, it is protected under Schedule I of the Wildlife Protection Act, 1972.
Blackbuck	The blackbuck (Antilope cervicapra), native to India and Nepal, thrives in grasslands and scrublands, known for its speed and keen eyesight. It is protected under Schedule I of the Wildlife Protection Act, 1972, and listed as Least Concern by the IUCN.
Laughing dove	The Laughing Dove (*Spilopelia senegalensis*) is a reddish-brown, ground-foraging bird found across Africa, the Middle East, and South Asia. Commonly seen in dry scrub and cultivated areas, it is listed as Least Concern by the IUCN.
Zographetus mathewi	Zographetus mathewi, or the Sahyadri Spotted Flitter, is a newly identified skipper butterfly endemic to Kerala's lowland Western Ghats. It plays vital ecological roles in pollination, pest control, and biodiversity support.
Cnemaspis Brahmaputra	Cnemaspisbrahmaputra, a new gecko species discovered near Dirgheswari Temple in Assam, reveals ancient biogeographic links with Sri Lanka. Genetically distinct and valley-restricted, it underscores faunal divergence across the Brahmaputra.
Grandala bird	The **Grandala (*Grandala coelicolor*), a unique thrush found in the alpine regions** of the Himalayas and China, is known for its striking sexually dimorphic plumage and large flocking behavior. It is an arboreal insectivore and currently listed as Least Concern by the IUCN.
Monkey Puzzle butterfly	The **Monkey Puzzle Butterfly (Rathinda amor) is a small Lycaenid species** found in the Western Ghats and South Asia's forested lowlands, often seen in undergrowth and clearings below 900m. It exhibits dark brown uppersides with distinctive white markings and is not protected under India's Wildlife Act.
Allographaeffus osoredica	Allographaeffusosoredica is a newly discovered crustose lichen from the Western Ghats, notable for its rare effuse soredia and genetic distinctiveness. It's the first Indian Allographa species sequenced using molecular markers, advancing integrative taxonomy and lichen conservation.
Lyriothemisabrahami	**Lyriothemisabrahami**, discovered in Kerala, breeds in tree-hole water pools and showcases strong sexual dimorphism. It boosts Kerala's odonate diversity and serves as an ecological indicator and pest regulator.
Ambrosia beetle	**Ambrosia beetles, first reported in India in 2012,** are invasive pests that damage trees by farming mutualistic fungi inside their bark, leading to economic and

	ecological losses.
Chamaegastrodi areiekensis	**Chamaegastrodiareiekensis is a newly discovered,** critically endangered, leafless orchid species from Mizoram that derives nutrients from fungi and is visible only briefly during its flowering season.
Piratula acuminata	**Piratula acuminata, a ground-dwelling wolf spider,** was discovered for the first time in India on Sagar Island in the Sundarbans, highlighting the region's rich mangrove biodiversity.

MISCELLANEOUS	
Bacillus ayatagriensis	**Bacillus ayatagriensis**, isolated from the mulberry rhizosphere, holds promise for sustainable agriculture. It supports sericulture, a key sector where India ranks second globally in silk production.
Mauna Loa Observatory	The Mauna Loa Observatory's Keeling Curve has been crucial in tracking the anthropogenic rise in atmospheric CO_2 since 1958. Its potential defunding threatens global climate monitoring, urging nations like India to strengthen domestic atmospheric data systems.
Green Climate Fund (GCF)	The **Green Climate Fund (GCF), established at COP 16 in 2010**, supports developing nations in achieving climate goals through a country-driven, balanced approach to mitigation and adaptation. It prioritizes vulnerable regions **like SIDS, LDCs, and African States, with its secretariat based in Songdo, South Korea**.
Catastrophe bonds	**Catastrophe Bonds (Cat Bonds) are financial instruments** that transfer disaster risk from insurers or governments to investors via a Special Purpose Vehicle (SPV). Investors lose their principal if a specified disaster occurs; otherwise, they earn returns at maturity.
Sangri of khejri	**Ker Sangri, a traditional Rajasthani dish** made from wild Ker berries and Sangri pods of the Khejri tree, reflects the desert's resilience and Bishnoi ecological values. Its GI tag ensures authenticity, economic upliftment, and cultural preservation.
RHoDIS	RhoDIS India, launched in 2016 by MoEFCC, uses DNA indexing to create unique genetic profiles of rhinos, aiding in wildlife crime investigation. It enhances scientific forensics and supports rhino population management across key states.
National Crisis Management Committee	The **National Crisis Management Committee (NCMC), chaired by the Cabinet Secretary, is an apex coordination body under the Disaster Management Act, 2005**, empowered to direct nationwide disaster response and co-opt experts based on crisis needs. It ensures unified, agile, and effective disaster management across central and state agencies.

5.10 ADDITIONAL TOPICS FOR READING FROM IASGYAN WEBSITE

Topics	Date
Solar capacity in India	1st July 2025
Animal Discoveries and Plant Discoveries 2024	3RD July 2025
Delhi's fuel ban for old vehicles: What does the law say?	7th July 2025
What is behind the record-breaking heat in Kashmir?	10th July 2025
Assessing India's carbon credit trading scheme targets	16th July 2025
Environment Ministry defends new coal plant norms as 'cost effective, climate coherent'	17th July 2025

How is global shipping trying to decarbonise?, A tectonic shift in thinking to build seismic resilience	18th July 2025
Green energy sector: India vs China	19TH July 2025
Chemical pollution, Alien plant invasion, Pale capped pigeon	22nd July 2025
U.N.'s top court delivers landmark decision on tackling climate change	24TH July 2025
Sea Slug/Lantana Camara/	25TH July 2025
Wasp	31ST July 2025

6. SCIENCE & TECHNOLOGY AND HEALTH

6.1 SHORT ARTICLES

NISAR Satellite

Context

- The NASA-ISRO Synthetic Aperture Radar (NISAR) mission, a joint venture between NASA (USA) and ISRO (India) launched from the Satish Dhawan Space Centre, in Sriharikota, Andhra Pradesh.

NISAR's mission objectives

- **Monitoring Earth's Changing Ecosystems:** Tracks deforestation, analyzes forest biomass, and monitors changes in vegetation caused by climate change.
- **Mapping Ice Sheets and Glaciers:** Measures ice flow, detects changes in ice thickness, and helps predict potential sea-level rise.
- **Studying Earth's Surface Deformation:** Observes ground deformation related to earthquakes, volcanic activity, and landslides, improving disaster preparedness and response.
- **Mapping Global Water Resources:** Identifies freshwater reserves, tracks groundwater depletion, and aids in the effective management of water resources.
- **Supporting Sustainable Development:** Provides data for informed decision-making in agriculture, infrastructure planning, and environmental protection.

Unique technology and capabilities

- **Dual-Frequency Synthetic Aperture Radar (SAR):** NISAR is the first satellite to use both L-band (provided by NASA) and S-band (provided by ISRO) radars.
  - **L-band Radar (NASA):** Penetrates forest canopies and soil layers, making it suitable for studying ground deformation, biomass, and long-term changes.
  - **S-band Radar (ISRO):** Optimizes for monitoring surface-level changes like crop growth, biomass estimates, and water levels.

- **SweepSAR Technology:** Allows NISAR to image a wide region (over 240 kilometers) with high resolution. It enables the satellite to image the entire Earth every 12 days.
- **All-Weather, Day-and-Night Imaging:** Unlike optical satellites, NISAR's radar systems can "see" through clouds, darkness, and even dense vegetation, providing continuous data regardless of weather conditions.
- **Orbit and Mission Life:** NISAR orbits Earth at an altitude of 747 kilometers in a sun-synchronous polar orbit. The mission has a planned duration of five years.
- **Open Data Policy:** All NISAR data will be freely available to the global scientific community.

Hydrogen-Powered Coach

Context

- Indian Railways has successfully tested its first hydrogen-powered coach at the Integral Coach Factory (ICF) in Chennai.

Hydrogen-powered coach project

- The **Northern Railway zone initiated this project in 2020-21**
- The Research Design & Standards Organisation (RDSO) is responsible for the design, validation, and testing.
- The project involves two main components:
  - **Conversion of Power Cars:** Two existing 1600 HorsePower (HP) diesel power cars are retrofitted with hydrogen fuel cell-powered systems. Each power car is designed to store 220 kg of hydrogen.
  - **Hydrogen Infrastructure:** A hydrogen storage and fuelling facility is being established at Jind, Haryana, with a capacity of 3,000 kg, to support the train's operations.
- The initial plan is to **operate the hydrogen train between Jind and Sonepat stations in Haryana.**

How Hydrogen Trains Work

- Hydrogen trains generate electricity using hydrogen fuel cells.
- Hydrogen gas (H2) and oxygen from the air (O2) enter the fuel cell, where a chemical reaction occurs, combining hydrogen and oxygen atoms.
  - This reaction produces electricity to power the train's electric motors, with the **only byproduct being pure water (H2O).**

- **Germany launched the world's first commercial hydrogen-powered passenger train in 2018.**

Challenges and Safety Protocols

- Hydrogen is highly flammable and requires specialized equipment and strict protocols for safe storage at high pressure and transfer.
- The **Petroleum and Explosives Safety Organization (PESO) Standards, under the Department for Promotion of Industry and Internal Trade (DPIIT), regulate its storage and handling.**

Biostimulants

Context

- The Union Agriculture Minister has written to Chief Ministers of all states, urging an immediate halt to the "forced tagging" of nano-fertilisers or biostimulants with conventional fertilisers.

What are Biostimulants?

- Biostimulants are **specialized substances or microorganisms applied to plants, seeds, or soil to enhance plant growth, improve nutrient utilization, and increase stress tolerance.**

	Biostimulants	Fertilizers	Pesticides
Primary Role	Enhance plant natural processes, improve stress tolerance	Provide essential nutrients for plant growth	Control pests, weeds, or diseases
Mechanism	Stimulate natural plant functions, improve nutrient uptake, strengthen defenses	Directly supply nutrients the plant absorbs	Kill, repel, or control harmful organisms
Composition	Plant extracts, microbes, humic acids, amino acids	Nitrogen, phosphorus, potassium, micronutrients	Chemical compounds toxic to target organisms
Benefit	Healthier, more resilient plants; better resource use	Stronger, faster growth; higher yields	Protect crops from pest/disease damage
Environmental Impact	Generally environmentally friendly, reduce chemical use	Can lead to runoff and pollution if overused	Can have negative environmental impacts and harm non-target species

Regulation of Biostimulants

- The Fertiliser (Inorganic, Organic or Mixed) (Control) Order, 1985, regulates the manufacturing and sale of biostimulants.
- **2021 FCO Amendment for Biostimulants** provided an official definition and listed specific types of biostimulants, including botanical and seaweed extracts, bio-chemicals, vitamins, and antioxidants.
  - A **Central Biostimulant Committee, chaired by the Agriculture Commissioner,** was established to advise the government on registration, manufacturing, and quality control.
  - Testing agencies like the National Agricultural Research System (NARS) and the Indian Council of Agricultural Research (ICAR) conduct trials to ensure product safety and effectiveness.

- **May 2025 Notification:** The Ministry of Agriculture and Farmers Welfare registered 34 new biostimulants under the FCO in May 2025, increasing the total number of registered biostimulants in India to over 45.
  - Major categories include **seaweed and botanical extracts**, humic and fulvic acid formulations, protein hydrolysates and amino acid blends, bio-chemicals, vitamin complexes, cell-free microbial products, enzymatic biostimulants, antioxidants, and anti-transpirants.

Maglev Technology
Context
- China has tested magnetic levitation (Maglev) technology.
What is Maglev Technology?
- Maglev technology is an **advanced method of moving vehicles, primarily trains, using powerful magnets.** These trains levitate above a special guideway equipped with electromagnets.
- **How it Works:** The system operates on the principles of magnetism:
  - **Levitation (Lifting):** Powerful electromagnets on the train and within the guideway repel each other, creating a strong repulsive force that lifts the train a few centimeters above the track.
  - **Guidance (Steering):** Other sets of magnets keep the train centered on the guideway, preventing sideways drift.
  - **Propulsion (Moving Forward):** A "linear motor" system, integrated into both the guideway and the train, generates a constantly changing magnetic field that propels the train forward.
- The latest Chinese Maglev train can achieve speeds of up to 600 km per hour.
Key Benefits of Maglev Technology
- Reduced Travel Times
- **Absence of physical contact between the train and the track** eliminates friction, leading to:
  - **Less Wear and Tear:** Components last longer, resulting in lower maintenance costs for the train and track.
  - **Higher Energy Efficiency:** Less energy is wasted overcoming friction.
- **Eco-Friendly:** Maglev trains produce zero direct emissions.

- **Safety:** The magnetic guidance system offers high stability, potentially reducing the risk of derailments common in traditional rail.

Pheromone
Context
- Researchers have demonstrated the possibility of manipulating pheromones released by locusts to prevent them from swarming and engaging in destructive group feeding frenzies.
What are locusts and why do they swarm?
- Locusts are a **type of grasshopper characterized by their unique ability to change from a solitary phase (living alone) to a gregarious phase (living in large groups).**
- When in their gregarious phase, they form massive swarms that are extremely destructive.
- These swarms can destroy thousands of hectares of crops in a few days, leading to severe food shortages and economic losses.
What is "pheromone"?
- A pheromone is a **chemical signal released by an animal into the environment**. Other animals of the same species detect this signal and react to it in specific ways, influencing their behavior.
- Researchers have shown that **manipulating the pheromones released by locusts can prevent them from swarming or engaging in destructive group behavior.**

Ham Radio
Context
- Indian astronaut Shubhanshu Shukla interacted with students from the International Space Station (ISS) via ham radio.
About Ham Radio
- Amateur radio, commonly known as ham radio, is a licensed service that allows

individuals to communicate using radio waves.
- Ham radio communication spans local, global, and even extends into space.
- **Licensing in India:** Individuals aged 12 and above can obtain a ham radio license from the Ministry of Electronics and Information Technology.
- **Ham Radio in Space Communication**
  o It was first utilized for Earth-to-space communication on a space shuttle in 1983.
  o The International Space Station (ISS) is equipped with a ham radio system.
- **Emergency Communication:** Ham radio proves invaluable when traditional communication infrastructure fails due to man-made crises (e.g., wars) or natural disasters (e.g., earthquakes, cyclones, floods).

6.2   SNIPPETS

Topics	Details
N-Nitrosodimethylamine (NDMA)	• The Drug Controller General of India (DCGI) instructed state and Union Territory to monitor the presence of N-Nitrosodimethylamine (NDMA) in the antacid Ranitidine. • It is a volatile organic chemical that is widely found in the environment, classified as a probable human carcinogen based on studies in experimental animals. • It is a yellow, odorless liquid at room temperature. • Used in producing rocket fuel, antioxidants, softeners for copolymers, and lubricant additives.
Tracers Mission	• The NASA TRACERS mission, launched to study the interaction of solar wind with Earth's magnetosphere. • The **mission employs twin satellites in low Earth orbit to study how the Sun's energy and particles interact with Earth's magnetic field.** • Space weather impacts various aspects of life on Earth: it disrupts communication and navigation systems, affects satellite operations, can damage or disrupt power grids through induced currents.
Legionnaires' Disease	• Residents of Central Harlem in New York City have been advised to exercise caution after cases of Legionnaires' disease have been identified. • It is **a type of lung infection (pneumonia) caused by 'Legionella' bacteria;** it naturally lives in freshwater environments like lakes and rivers. • It was first identified in 1977,in the USA. • It is not contagious; it **doesn't spread from person to person.** Treated with antibiotics.
Bioemu Ai	• BioEmu is a new deep learning system, developed by Microsoft to predict the full range of shapes a protein naturally explores under biological conditions. • Proteins are complex molecules whose ability to change shape directly affects their function, making this understanding crucial for drug discovery. • **BioEmu is a Deep Learning AI system that predicts the entire dynamic range of shapes of a protein."**

	• It can reduce the time needed to find new medicines.
SNIFS Mission	• NASA launched a sounding rocket called the Solar EruptioN Integral Field Spectrograph (SNIFS) experiment from New Mexico. • **Objective**: Enhance the understanding of energy transformation and motion within the chromosphere, which can influence the generation of solar eruptions and space weather. • **Unique Technology**: SNIFS is the first-ever solar ultraviolet integral field spectrograph (IFS).
Zimislecel Therapy	• A clinical trial found that zimislecel therapy improves blood sugar control level. • **Zimislecel therapy uses lab-grown cells to treat Type 1 Diabetes**, aiming to restore the body's natural ability to produce insulin. • Type 1 Diabetes (T1D) is an **autoimmune disease where the body's immune system mistakenly attacks and destroys the insulin-producing cells in the pancreas.**
Adfalcivax	• India is developing AdFalciVax, a multi-stage malaria vaccine candidate. • AdFalciVax is **India's first indigenous recombinant chimeric malaria vaccine candidate.** • It is produced using Lactococcus lactis, a safe, food-grade bacterium. • The vaccine is being developed by the Indian Council of Medical Research (ICMR). • Currently, it is in its preclinical stage of development and is not yet available for clinical use or commercialization.
Gravitational Waves	• Scientists have discovered gravitational waves from the merger of two black holes, an event named GW231123. • Gravitational waves are ripples in spacetime, analogous to water ripples created by a boat. • **First proposed by Albert Einstein in his General Theory of Relativity in 1915**, these waves are extremely weak, and only events of immense power, such as black hole mergers, produce ones detectable on Earth. • The **Laser Interferometer Gravitational Wave Observatory (LIGO) in the United States achieved the first detection in 2015.**
Ground Penetrating Radar (GPR) Technology	• The Ground Penetrating Radar (GPR) technology has allowed IIT Kanpur to discover signs of ancient Buddhist stupas and other structural remains buried beneath the soil in Haryana. • GPR is a **geophysical method that uses high-frequency electromagnetic pulses to image the subsurface of the Earth or other solid materials.** • It functions as a non-destructive detection and imaging method, capable of identifying subsurface elements both underground and within surfaces like concrete.
India's First Tribal Genome Sequencing Project	• Gujarat has launched India's first genome sequencing initiative focused exclusively on tribal communities. • **Gujarat is the first state to specifically focus on the genetic profiles of tribal populations.** • The project is managed by the Gujarat Biotechnology Research Centre

	(GBRC).
	• **Objectives:** Detect genetic disorders prevalent in tribal populations, including conditions like sickle cell anemia, thalassemia, and certain hereditary cancers.
	• Genome sequencing is the process of deciphering the complete DNA sequence of an organism.
3i/Atlas	• Scientists have discovered 3I/ATLAS, potentially the oldest comet, predating our solar system by over 3 billion years.
	• Comet 3I/ATLAS was first spotted by scientists using the ATLAS survey telescope in Chile.
	• A comet is a small celestial body composed mainly of ice (water ice, carbon dioxide ice, methane ice, etc.), mixed with dust, rock particles, and frozen gases.
	• NASA has confirmed that 3I/ATLAS poses no threat to Earth.
Accelerator Mass Spectrometry (AMS) Dating	• The Tamil Nadu State Department of Archaeology (TNSDA) has sent charcoal samples for Accelerator Mass Spectrometry (AMS) dating in the US.
	• **AMS dating is a highly accurate method** for measuring the amount of radioactive Carbon-14 in a sample.
	• It requires only a minuscule amount of material, unlike conventional methods which need much larger samples.
	• Analyzes samples quickly, in a few hours, whereas conventional methods may take days or even months.
National Biobank	• The Union Minister for Science & Technology inaugurated the state-of-the-art "National Biobank."
	• A **biobank functions as a centralized repository for collecting, processing, and storing biological sample**s and associated health information, from human subjects, for research purposes.
	• **Purpose:** Researchers utilize these stored samples and data to gain a deeper understanding of various diseases, identify new therapeutic approaches, and advance the development of personalized medicine.

6.3   ADDITIONAL TOPICS FOR READING FROM IASGYAN WEBSITE

TOPIC NAME	DATE
THREE-PARENT BABY	24th JULY 2025
EARTH INTELLIGENCE	16th JULY 2025
COPYRIGHT LAW AND AI	4th JULY 2025
HOW GPS INTERFERENCE THREATENS GLOBAL TRANSPORTATION	2nd JULY 2025

7. HISTORY & CULTURE

7.1   SHORT ARTICLES

Alluri Sitarama Raju

Context

- Remembered on his 128th birth anniversary; the Defence Minister highlighted his legacy and the ongoing fight against Maoism.

Key Details

- Born in 1897 in Andhra Pradesh, he led a tribal rebellion against British colonial rule
- Initially followed Gandhi's non-cooperation movement but turned to armed resistance
- Known for guerrilla warfare in the Eastern Ghats
- Martyred in 1924; British spent ₹40 lakh to capture him

Nagari Pracharini Sabha

Context

- Revived after decades amid ongoing debates about language policies in states like Maharashtra and Tamil Nadu.

Key Details

- Founded in 1893 in Varanasi to promote Hindi and the Devanagari script
- Early supporters included Shyamsundar Das and Babu Radhakrishna Das
- Played a key role in publishing Hindi literature, managing Bharat Kala Bhavan, and promoting educational reform
- Revived in 2023 after a court order, led by Vyomesh Shukla

Chautal

Context

- Highlighted by PM Modi during his visit to Trinidad and Tobago as a symbol of India's deep-rooted cultural ties with the diaspora.

Key Details

- A classical 12-beat rhythm cycle (tāl) used in dhrupad and dhamar musical traditions
- Played on the *pakhawaj* instrument
- "Chautal" means "four claps" with structured vibhags (sections)

- Reflects spiritual depth and is part of India's rich rhythmic heritage

Sheesh Mahal (Delhi)

Context

- Recently restored and unveiled as part of government efforts to preserve Mughal-era heritage structures.

Key Details

- Built during the reign of Shah Jahan in North Delhi's Shalimar Bagh
- Constructed using red sandstone and bricks
- Inspired by Kashmir's Shalimar Bagh (1619); features Char-Bagh style gardens with water channels
- Restoration done by ASI and DDA; now a protected monument

Maratha Military Landscapes

Context

- Recognized as a UNESCO World Heritage Site for showcasing the Maratha empire's military prowess and architectural innovations.

Key Details

- Includes 12 forts across Maharashtra and Tamil Nadu from the 17th–19th century
- Highlights military strategies and engineering techniques of the Marathas
- Locations include hilltop and coastal settings
- Nominated under UNESCO's criteria of Outstanding Universal Value (OUV); evaluated by ICOMOS; India is on WHC (2021–25)

Tiruchendur Subramanya Swamy Temple

Context

- The temple witnessed its grand reconsecration ceremony after 16 years, drawing thousands of devotees.

Key Details

- Located in Tiruchendur, Tamil Nadu; dedicated to Lord Murugan

- One of the six sacred abodes of Murugan and the only one situated by the sea
- Over 2000 years old, built using red sandstone with sea-facing views
- Features a 138-ft RajaGopuram, intricately carved mandapams, and shrines

Paika Rebellion (1817)

Context
- Its exclusion from NCERT's new Class 8 history book sparked controversy in Odisha for neglecting a major anti-colonial uprising.

Key Details
- An early revolt against British rule led by Bakshi Jagabandhu in Odisha
- Took place 40 years before the 1857 Revolt
- Triggered by British policies disrupting hereditary land rights, imposing taxes, and monopolizing salt
- Spread from Khurda to tribal regions; seen as Odisha's first war of independence

8. GEOGRAPHY AND DISASTER MANAGEMENT

8.1   SHORT ARTICLES

Mud Volcano (Taiwan)

Context

- Wandan mud volcano eruption

Key Features

- Formed from hot water mixing with fine sediment
- Emits gases like methane, CO_2, and acidic water
- Eruptions triggered by pressure buildup below
- Constantly reshape but erode quickly
- Types include Gryphon, Mud Cone, Scoria Cone, Salse, Spring

Rainwater Harvesting (Jaipur)

Context

- Project in Kukas with 15 crore litre capacity

Key Features

- Supports drinking water for 10,000 households
- Benefits 6,000+ farmers; boosts ₹5 crore/year income
- Reduces groundwater overuse and promotes sustainability
- Ensures water security via traditional and modern methods

Types of Rainwater Harvesting

Context

- Methods of water collection

Key Features

- Rooftop collection systems
- Surface runoff harvesting methods
- Recharge structures like pits and percolation tanks
- Check dams and traditional community systems
- Help manage floods and recharge groundwater

Ghana

Context

- PM's visit to strengthen diplomatic ties

Key Features

- Located in West Africa; capital: Accra
- Home to the Volta River & Lake Volta
- Mountain ranges: Akwapim-Togo, Kwahu Plateau
- India-Ghana ties since 1953; shared NAM values
- Exports include cocoa, gold, and oil

Mount Shinmoedake (Japan)

Context

- Active volcano recently erupted

Key Features

- Stratovolcano in Kirishima range, Kyushu
- Elevation: 1,420.8 meters
- Eruption history since 1716
- Featured in James Bond film *You Only Live Twice*
- Frequent ash clouds and pyroclastic activity

Stratovolcano

Context

- Common volcanic structure

Key Features

- Tall, steep-sided, cone-shaped mountains
- Built from lava and pyroclastic material layers
- Eruptions can be highly explosive
- Typically found at subduction zones (Ring of Fire)
- Common lavas: Andesite and Dacite

Polar Anticyclone

Context

- Cold weather due to high-pressure system

Key Features

- High-pressure system forming near poles
- Strongest during winter due to surface cooling
- Brings clear skies and extreme cold
- Includes Siberian, Canadian, and Alaskan anticyclones
- Moves toward equator, causing cold waves

Tokara Islands (Japan)

Context

- Experienced 1,000+ quakes in 2 weeks

Key Features

- Located between Kyushu and Amami Islands
- Subtropical to temperate climate
- Rainfall ~2,700 mm; avg temp: 20°C
- Ruled historically by Shimazu clan and Ryukyu Kingdom
- Mentioned as "Tokan" in ancient texts

Machilipatnam (AP)

Context

- Port city under revival

Key Features

- Ancient trade hub with links to Rome and China
- Flourished under Qutb Shahi dynasty
- Declined due to cyclones and British neglect
- Greenfield port 48% completed; due by 2026
- Aims to revive trade and generate employment

Tanimbar Islands (Indonesia)

Context

- Hit by 6.7 magnitude earthquake

Key Features

- 30+ islands between Banda and Arafura Seas
- Largest island: Yamdena
- Lies on Pacific Ring of Fire
- Region prone to frequent quakes and eruptions
- Hilly east, swampy west; part of Maluku province

Bitra Island (Lakshadweep)

Context

- To be acquired for defense use

Key Features

- Small coral atoll in Amindivi subgroup
- Settled in 1945; population <300
- Site of Malik Mulla shrine (pilgrimage center)
- Lies 483 km west of Kochi
- Climate: tropical, 25–35°C with high humidity

9. GOVERNMENT SCHEMES

9.1 SHORT ARTICLES

Prime Minister Dhan-Dhaanya Krishi Yojana (PMDDKY)

Context

- The Union Cabinet has approved the Prime Minister Dhan-Dhaanya Krishi Yojana (PMDDKY).

What is PMDDKY?

- It is a scheme **focused on agriculture and allied sectors**, including livestock, dairy, and fisheries.
- **Announced in the Union Budget 2025–26**, to catalyze growth in 100 agri-districts with an outlay of ₹24,000 crore over six years, starting FY 2025–26.
- **Inspired by NITI Aayog's Aspirational Districts Programme**, it is projected to benefit 1.7 crore small and marginal farmers.

> **Aspirational Districts Programme (ADP)**
> - Launched in 2018, ADP targets 112 socio-economically underdeveloped districts for rapid transformation.
> - Implemented by NITI Aayog, it **collaborates with state governments and district administrations.**
> - **It focuses on five themes**: Health & Nutrition, Education, Agriculture & Water Resources, Financial Inclusion & Skill Development, and Infrastructure.

District Selection for PMDDKY

- Districts with low agricultural productivity, low cropping intensity, and less credit disbursement qualify.
- A minimum of one district from every state and Union Territory participates, with **proportional allocation based on net cropped area and operational land holdings.**

Convergence Model

- PMDDKY **integrates 36 existing central schemes from 11 ministries,** integrates relevant state schemes, and promotes local private sector partnerships.
- Central schemes like Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) and PM Fasal Bima Yojana (PMFBY) will be subsumed under PMDDKY.

Planning and Governance Structure

- Committees at District, State, and National levels oversee implementation.
- The **District Dhan Dhaanya Samiti, chaired by the District Collector or Gram Panchayat**, will finalize the District Agriculture and Allied Activities Plan, aligning with national goals of crop diversification, water/soil conservation, self-sufficiency, and organic farming.
- Agricultural Universities serve as technical knowledge partners.
- **NITI Aayog provides overall guidance,** capacity building, and regular reviews.

Monitoring and Evaluation

- The scheme will be monitored monthly against 117 Key Performance Indicators (KPIs) using a digital dashboard/portal that ranks districts.
- Central Nodal Officers will conduct regular field visits and reviews to ensure effective implementation.

ADEETIE Scheme

Context

- The Union Ministry of Power, through its Bureau of Energy Efficiency (BEE), has launched the ADEETIE (Assistance in Deploying Energy Efficient Technologies in Industries & Establishments) scheme.

> **Bureau of Energy Efficiency (BEE)**
> - It is an **autonomous agency operating under the Ministry of Power**, established under the Energy Conservation Act 2001.
> - Its mandate includes, i**mplementing a Standards and Labeling program** that mandates energy performance testing and star rating (1 to 5) labels for high-energy-use consumer equipment and appliances.

About ADEETIE Scheme

- It is **focused on the Micro, Small, and Medium Enterprises (MSME) sector,** which contributes about 30% of its GDP and accounts for approximately 45% of total exports.
- **Reduce Energy Consumption**: Aims to help MSMEs reduce their energy consumption by 30–50%, thereby improving their "power-to-product ratio."
- **Support Green Energy Corridors**: Promote widespread adoption of clean, efficient energy practices to support a greener economy.
- **Implementation:** The scheme will run for three years (FY 2025-26 to FY 2027-28) and covers 14 energy-intensive sectors.
  - In its initial phase, it will target 60 identified industrial clusters, with an additional 100 clusters in the second phase.
  - Experts will assess a business's energy use and propose energy-efficient technology implementations, including cost and expected savings.
- **Financial Support for MSMEs:** MSMEs can receive financial assistance through interest subvention on loans, where the government pays a portion of the interest:
  - **Micro & Small Enterprises**: receive a 5% interest subvention.
  - **Medium Enterprises**: receive a 3% interest subvention.
- The ADEETIE portal has been launched to streamline the financing process for MSMEs and facilitate access to scheme benefits.

PM Professorships

Context

- The Anusandhan National Research Foundation (ANRF) has announced the "Prime Minister Professorships" program, designed to boost research in state universities.

Anusandhan National Research Foundation (ANRF)

- **Established by the ANRF Act (2023),** it is an independent body tasked with catalyzing and funding high-quality scientific research across universities, colleges, research institutions, and R&D laboratories.
- The **Prime Minister serves as the ex-officio President of its Governing Board**, with the Union Ministers of Science & Technology and Education as ex-officio Vice-Presidents.
- **Funds:** Over five years (2023-24 to 2027-28) is ₹50,000 crore, with ₹14,000 crore from the Central Government.

Prime Minister Professorships program

- The program aims to leverage the knowledge and experience of top scientists, to enhance research capabilities in state universities.
- **Eligible candidates include:**
  - Retired scientists.
  - Scientists from other countries, including Non-Resident Indians (NRIs), Persons of Indian Origin (PIOs), and Overseas Citizens of India (OCIs).
  - Individuals with a strong research and innovation background from private companies or industries.
  - Experienced "Professors of Practice," who are experts with extensive practical experience and a "distinguished record" in research and innovation, often without requiring traditional academic qualifications like PhDs.
- **Financial Benefits for Selected Professors:**
  - **Annual Fellowship**: Each selected professor receives ₹30 lakh per year.
  - **Research Grant**: They also receive ₹24 lakh per year for consumables, domestic travel, contingencies, and equipment.
  - An additional ₹1 lakh per year is provided for administrative or general expenses.
- **Working Model:** Selected professors will work at State universities, which are classified as "spoke" institutions under the Promoting Advanced and Inclusive Research (PAIR) program.

- o The PAIR initiative is designed to help universities that are in early stages of research development by connecting them with top-tier "Hub" Institutions (leading research institutions like some Central Universities, NITs, and IIITs ranked 25 or below in NIRF), in a "mentorship arrangement."
- **Responsibility:** Provide continuous academic and research support to faculty members and students at the State universities.

Research Development and Innovation (RDI) Scheme

Context

- The Union Cabinet approved the Research Development and Innovation (RDI) Scheme with ₹1 lakh Crore to boost private sector research and innovation.

Objectives

- Encourages private companies to boost research, development, and innovation in "sunrise sectors" for economic security and self-reliance.
- Assists in acquiring strategic technologies from international sources
- Establishes a special "Deep-Tech Fund of Funds" for startups and advanced technology companies.

Management and Implementation

- The Anusandhan National Research Foundation (ANRF) serves as the main body overseeing the scheme.
- **Governing Board chaired by the Prime Minister** provides the strategic direction for the RDI Scheme.
- The Department of Science and Technology (DST) serves as the main government department responsible for implementing the RDI Scheme.

Funding Mechanism of the RDI Scheme

The RDI Scheme employs a two-level funding mechanism:

- **First Level: Special Purpose Fund (SPF):** The ANRF creates a Special Purpose Fund, holding ₹1 lakh crore. The government provides this money to the ANRF as a 50-year interest-free loan.
- **Second Level: Fund Managers:** The SPF then provides funds to different "second-level fund managers." These managers can include Alternative Investment Funds (AIFs), Non-Banking Financial Companies (NBFCs), or other organizations. They directly provide funds to R&D projects.

Employment-Linked Incentive (ELI) Scheme

Context

- The Union Cabinet approved the Employment-Linked Incentive (ELI) Scheme with an allocation of ₹99,446 crore.

Employment-Linked Incentive (ELI) Scheme

- The ELI Scheme, **initially announced in the Union Budget 2024-25**, incentivizes both first-time employees entering the organized workforce and employers who generate new positions.
- The scheme operates for jobs created between August 1, 2025, and July 31, 2027.
- **Objective:** The scheme aims to increase formal employment by providing financial incentives to eligible employees and employers.
- **Sectoral Focus:** While the scheme applies across all sectors, it strategically prioritizes the manufacturing sector to bolster industrial growth and job creation in this key area.
- **Target:** The scheme projects the creation of over 3.5 crore jobs within its two-year operational period.

Key Incentives

For Employees (First-Timers)

- **Financial Incentive:** Eligible first-time employees receive a one-month wage, capped at ₹15,000.
- **Eligibility Criteria:** Employees with monthly salaries up to ₹1 lakh qualify for this benefit.
- **Disbursement Schedule:**
  - o The first installment becomes payable after an employee completes six months of service.

o The second installment becomes payable after 12 months of service and upon the employee's successful completion of a financial literacy program.

For Employers

- **Monthly Incentive:** The government provides employers with an incentive of up to ₹3,000 per month for each additional employee.
- **Sustained Employment Condition:** Employers receive this incentive for employees who maintain sustained employment for a minimum of six months.
- **Duration of Incentive:**
  o For non-manufacturing sectors, employers receive incentives for a period of two years.
  o For the manufacturing sector, the incentives extend for an additional two years, totaling four years.

9.2   SNIPPETS

Topics	Details
Mera Gaon Meri Dharohar (MGMD)	• The Government has documented the cultural heritage of over 4.7 lakh villages under the 'Mera Gaon Meri Dharohar' (MGMD) initiative. • **Origin:** Launched by the Ministry of Culture in 2023 under the National Mission on Cultural Mapping (NMCM), to **create a comprehensive cultural map of 6.5 lakh villages across India.** • **Implementation:** Indira Gandhi National Centre for the Arts (IGNCA) documents the rich cultural heritage at the grassroots level, including traditional arts, crafts, food habits, oral knowledge, and historical monuments. • **No direct financial assistance is allocated** to states for the implementation of this program,
Veer Parivar Sahayata Yojana	• The National Legal Services Authority (NALSA) has launched the "Veer Parivar Sahayata Yojana". • **Objectives:** Provide comprehensive legal aid and assistance to serving and retired defence personnel and their families. • It covers serving soldiers, ex-servicemen, and paramilitary forces (BSF, CRPF, ITBP, etc.), along with their spouses, children, and dependent family members.
Ai For India 2.0" Programme	• The Minister of Skill Development and Entrepreneurship (MSDE), highlighted the "AI for India 2.0" Programme in the Rajya Sabha. • **Origin:** Launched by the Ministry of Skill Development and Entrepreneurship (MSDE) on July 15, 2023, on 'World Youth Skills Day'. • **Objectives**: Offer free online training in Artificial Intelligence (AI) and Machine Learning (ML).
Palna Scheme	• The Minister of Women and Child Development, in the Rajya Sabha, highlighted the Palna Scheme. • **Origin:** In 2022, the National Creche Scheme was reorganized and rebranded as the Palna Scheme, a Centrally Sponsored Scheme. • It operates under the 'Samarthya' sub-scheme of Mission Shakti. **Implemented by the Ministry of Women and Child Development** • **Objectives:** Provide day-care services for children (aged 6 months to 6 years), mainly those whose mothers are working.
Pradhan Mantri Divyasha Kendra	• The Union Ministry of Social Justice & Empowerment to inaugurate the 75th Pradhan Mantri Divyasha Kendra (PMDK) at Badaun, Uttar Pradesh.

(PMDK)	• It is a **special center that provides access to high-quality and affordable assistive devices to people with disabilities (or "Divyangjan") and senior citizens.** • The Artificial Limbs Manufacturing Corporation of India (ALIMCO), under the Ministry of Social Justice and Empowerment, runs these centers.
Talash Initiative	• The National Education Society for Tribal Students (NESTS), in partnership with UNICEF India, has launched TALASH. • TALASH (Tribal Aptitude, Life Skills and Self-Esteem Hub) initiative aims to **support the holistic development of students attending Eklavya Model Residential Schools (EMRSs).** • Based on the Common aptitude test result, students receive "Career Cards" suggesting suitable career options. • A specialized online portal provides educators with resources and training.
Sanchar Mitra Scheme	• The Department of Telecommunications (DoT) launched the "Sanchar Mitra Scheme" to empower youth as digital ambassadors. • **Objectives:** Designates young individuals, mainly college students, as "digital ambassadors" or "Sanchar Mitras." • Local DoT offices collaborate with educational institutions to identify and select suitable students for participation in the program. • Student volunteers **educate the public on mobile phone usage, internet literacy, and cyber safety practices.**
E-Truck Incentive Scheme	• The Union Minister for Heavy Industries and Steel launched the e-Truck Incentive Scheme, under "PM E-DRIVE. • **Objectives:** Provides direct financial assistance to businesses and transporters for purchasing electric trucks. • The incentive amount depends on the electric truck's gross vehicle weight (GVW). The **maximum financial support permissible stands at ₹9.6 lakh per vehicle.** • Businesses receive these incentives as an immediate price reduction at the point of purchase of the electric truck.
Broadcasting Infrastructure And Network Development (BIND) Scheme	• Government to establish Akashvanikendra in Ujjain Under Broadcasting Infrastructure and Network Development (BIND) scheme. • It is a **Central Sector Scheme, to provide financial support to Prasar Bharati, to modernize and improve their broadcasting services.** • Prasar Bharati, an independent body, set up by the Prasar Bharati Act 1990. It **operates the Doordarshan Television Network and All India Radio.**
Sarvepalli Radhakrishnan Vidyarthi Mitra Kits Scheme	• Andhra Pradesh has launched the 'Sarvepalli Radhakrishnan Vidyarthi Mitra Kits' scheme. • The scheme provides **free school kits to school-going students across Andhra Pradesh.** • Components of the Kit: Uniforms, Footwear and Accessories, Study Materials. • By supplying these essential items free of cost, the scheme alleviates financial burdens on families and promotes equitable access to education.
India Energy Stack (IES)	• The Ministry of Power launched the India Energy Stack (IES) initiative to establish a unified digital infrastructure for the nation's energy sector. • It is conceptualized as a Digital Public Infrastructure (DPI) for the energy sector.

- It will function as a **foundational digital platform that provides standardized, secure, and open access for various stakeholders within the energy ecosystem.**
- It aims to integrate various aspects of the electricity value chain, from generation and transmission to distribution and consumption.

9.3   ADDITIONAL TOPICS FOR READING FROM IASGYAN WEBSITE

TOPIC NAME	DATE
PRADHAN MANTRI SURYA GHAR MUFT BIJLI YOJANA	29th JULY 2025
POSHAN ABHIYAAN	19th JULY 2025
ATAL BHUJAL YOJANA	2nd JULY 2025