FORTUNE
Prelims Precise

August 2025

FORTUNE IAS
Toppers in Top 100

Rank 4
P K Sidharth Ramkumar
2024

Rank 6
Meera K
2021

Rank 15
Sidharth B
2017

Rank 21
Dilip K Kainikkara
2022

Rank 28
Hamna Mariyam
2017

Rank 29
Sreelakshmi Ram
2019

Rank 31
Vishnu Sasikumar
2024

Rank 33
Anand
2016

Rank 36
Arya V M
2023

Rank 40
Archana P P
2024

Rank 45
Safna Nazarudeen
2020

Rank 47
Nandanaa G P
2025

Rank 49
Renjina Mary V
2019

Rank 54
Sonnet Jose
2025

Rank 55
Dr. Arun S Nair
2020

Rank 57
Alfred O V
2022

Rank 58
Hari Kallikkat
2018

Rank 59
Benjo P Jose
2024

Rank 62
Aparna M B
2021

Rank 63
Dheenah Dastageer
2021

Rank 66
Akhil V Menon
2022

Rank 66
Arjun Mohan
2019

Rank 68
Kasturi Sha
2024

Rank 71
Fabi Rasheed
2024

Rank 81
Reenu Anna Mathew
2025

Rank 81
Malini S
2023

Rank 92
Devi Nandana
2020

Rank 93
Annie George
2024

Rank 95
Devika Priyadersini
2025

Rank 100
Kiran P B
2022

Preface

Fortune IAS Academy presents **'Prelims Precise'** , a monthly current affairs magazine through which we make prelims current affairs revision precise and effective.

This magazine is a comprehensive resource that condenses the significant news of each month into distinct sections such as polity and governance, economic development, science & technology, among others.

Each content is organised with the why in news context followed by its explanation.

Fortune Prelims Precise is available to all Prelims cum Mains batch students (2024) as part of the course study material. **It can be purchased from Fortune IAS Academy for Rs. 75 per issue**.

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Polity & Governance

National Organ and Tissue Transplant Organisation (NOTTO)

- NOTTO directed that women patients and relatives of deceased donors will get priority in organ allocation, as women made up 63.8% of donors (2019–23) but men accounted for 69.8% of recipients.

- The **Transplantation of Human Organs and Tissues (Amendment) Act, 2011** (principal Act in 1994) empowered the government to set up national, regional, and state-level transplant organisations.

- NOTTO was thus **created in 2014** by an executive order of Directorate General of Health Services (DGHS), Ministry of Health and Family Welfare (not a statutory body).

- It has two **divisions**: National Human Organ & Tissue Removal and Storage Network and National Biomaterial Centre

- NOTTO maintains the National Waiting List, coordinates organ allocation across states, frames policies, spreads awareness, and manages the National Organ & Tissue Donation and Transplant Registry (**NOTTR**).

- **Regional** Link: 5 ROTTOs (Chennai, Kolkata, Mumbai, Chandigarh, Guwahati) connect NOTTO with states and handle inter-state allocation.

- **State** Level: SOTTOs (e.g., Tamil Nadu) manage state waiting lists, donor/recipient registration, and awareness drives.

- Health is a **State subject;** some states (e.g., Andhra Pradesh, Telangana) have their own transplant laws, while others are yet to fully adopt the national framework

130th Constitution (Amendment) Bill

- The Constitution (130th Amendment) Bill, 2025, was introduced in the Lok Sabha and later referred to a Joint Parliamentary Committee.

- The bill seeks to amend **Articles 75, 164, and 239AA** to mandate removal of the Prime Minister, Chief Ministers, or any Union/State/UT Minister if they face arrest in a serious criminal case.

- A **Minister will cease to hold** office if charged with an offence punishable by **at least five years' imprisonment and detained for 30 consecutive days**.

- At the Union level, the President will remove such a Minister on the advice of the Prime Minister; at the State level, the Governor will act on the Chief Minister's advice; and for Delhi, the President will act on the advice of its Chief Minister.

- If the Prime Minister or a Chief Minister is in custody, they must resign by the 31st day, failing which they are **automatically removed**.

- However, the Bill allows reappointment of such individuals once released from custody.

Joint Parliamentary Committee (JPC):

- A Joint Parliamentary Committee (JPC) is a **temporary** body set up by Parliament for detailed **scrutiny** of a subject or Bill, with members from both Houses, ruling and opposition

- A JPC is set up after **one House of Parliament has passed a motion** and the other has agreed to it.

- Members of the JPC are decided by the Parliament & the number of members can vary.

- The JPC dissolves once its task is complete, and while its recommendations carry weight, they are **not binding** on the government

CEC Removal Process

- The Opposition is considering an impeachment motion against **Chief Election Commissioner (CEC) Gyanesh Kumar** accusing the Election Commission of India (ECI) of large-scale **"vote theft".**

- The Chief Election Commissioner (CEC) of India can be removed **only in the same manner and on the same grounds as a Supreme Court judge**, as laid down in **Article 324(5)** read with **Article 124(4)** of the Constitution.

- A motion for removal may be introduced in **either House of Parliament** with the support of at least 100 members of the Lok Sabha or 50 members of the Rajya Sabha.

- Once admitted, the procedure under the **Judges Inquiry Act, 1968** applies:

  - ☛ A **three-member inquiry committee** is formed consisting of a Supreme Court judge, a Chief Justice of a High Court, and a distinguished jurist (appointed by the presiding officer of the House where the motion was introduced).

- The committee investigates the charges and gives the CEC an opportunity to respond.

- If the charges are upheld, the motion must then be **passed in both Houses by special majority** (i) a majority of the total membership and (ii) a two-thirds majority of those present and voting.

- After this the **President is bound to order removal**.

- Other Election Commissioners (ECs) can be removed **only on the recommendatio**n of the CEC, but otherwise follow the same procedure.

Notary Portal

- The Government has **revamped the Notary Portal** to provide online services like applications for appointment, renewal of certificates, change of practice area, and filing annual returns.

- A Notary in India, **appointed under the Notaries Act, 1952,** is a statutory officer empowered to authenticate and attest documents, administer oaths, and note dishonour of negotiable instruments.

- They are appointed by the **Central or State Governments** through gazette notification, usually for five years.

- **Eligibility** generally requires 10 years' practice as an advocate (relaxed for SC/ST/OBC/women).

- Their **powers** include attesting signatures, certifying copies, preparing affidavits and contracts, and acting as impartial witnesses.

New OCI Rules

- The **Ministry of Home Affairs (MHA)** has tightened norms for Overseas Citizens of India (OCI) under the Citizenship Act, 1955 and Citizenship Rules, 2009.

- New rules empowering the Centre to cancel OCI registration on **new grounds i**ncluding:

- ☛ **Conviction** with imprisonment of two years or more (in India or abroad), **fraud** or concealment in obtaining OCI, **disaffection** towards the Constitution, **aiding** enemies during war, or if required for **India's sovereignty**, security, foreign relations, or public interest.

- The OCI scheme, **launched in 2005,** allows foreign nationals of Indian origin who were citizens of India on/after 26 Jan 1950, or their children/grandchildren/great-grandchildren to visit India visa-free.

- But excludes those who are or have ever been citizens of Pakistan or Bangladesh, or their descendants.

- **Features/Benefits:**

  - ☛ Visa-free, multiple entry, lifelong stay and travel in India.

  - ☛ Exemption from registering with Foreigners Regional Registration Officer (FRRO) for any length of stay.

  - ☛ Parity with NRIs in economic, financial, and educational matters (except for acquisition of agricultural/plantation property).

- **Limitations:**

  - ☛ Not dual citizenship—no political rights (voting, contesting elections, holding constitutional posts).

  - ☛ Cannot buy agricultural or plantation land.

Renaming Jalalabad In Uttar Pradesh

- The Union **Home Ministry** recently approved renaming **Jalalabad** in Shahjahanpur District, UP, to **Parashurampuri**, believed to be the birthplace of Bhagwan Parshuram.

- While the **Constitution has no provision** for renaming cities, the power lies with state legislatures.

- The process begins with a **resolution in the State Assembly**, passed by a simple majority.

- The proposal is then sent to the **Ministry of Home Affairs**, which consults agencies like Railways, IB, Department of Posts, Survey of India, and Registrar General of India.

- If all approve, the **MHA issues a No-Objection Certificate**, after which the state government **publishes an official notification** in its Gazette

Nominations to J&K Assembly

- The Union Home Ministry informed the Jammu & Kashmir (J&K) High Court that the **Lieutenant Governor (L-G) can nominate five members** to the J&K Assembly **without** the elected government's advice.

- Under the **J&K Reorganisation Act, 2019,** the L-G can nominate **2 women** if underrepresented.

- A **2023 amendment** added **3 seats** (2 for Kashmiri migrants, including a woman, and 1 for the Pakistan occupied JK community (PoJK)), raising the Assembly strength to **119** (24 seats kept vacant for PoJK).

- However, a question arose whether the nomination must be with or without UT's council of ministers advice.

- The MHA cited the **K. Lakshminarayanan (2019)** ruling (Puducherry nominations need no Council's advice), though SC rulings in the **Delhi services cases (2018, 2023)** had held L-Gs must generally follow elected governments' advice.

- In India, besides elected representatives, some members are nominated.

  - ☛ **Rajya Sabha (Art. 80):** President nominates 12 experts in literature, science, art, or social service.

  - ☛ **State Legislative Councils (Art. 171)**: Governor nominates 1/6th members with expertise in similar fields, including the cooperative movement.

  - ☛ **Puducherry** Assembly: Up to 3 nominated members under the UT Act, 1963 (not government servants).

  - ☛ **Delhi Assembly**: No provision for nomination.

Economy

Monetary Policy Committee (MPC)

- The Central Board of Directors of Reserve Bank of India (RBI), at its recent meeting held in Lucknow, approved the nomination of **Indranil Bhattacharyya**, Executive Director, as an **ex officio** member of the Monetary Policy Committee (MPC).

- The MPC is **a six-member body within the RBI** & the constitution of the committee is as follows:

  - ☛ **RBI Governor** (ex-officio Chairperson)

  - ☛ RBI Deputy Governor (in charge of monetary policy)

  - ☛ **One RBI officer nominated** by the Central Board

  - ☛ **Three external members** appointed by the central government with expertise in economics, banking and finance, or monetary policy

- Each member has **an equal vote** and in case of a tie, the **Governor casts the deciding vote.**

- The core responsibility of this committee is to decide the **policy repo rate**, which is the rate at which the RBI lends short-term funds to financial institutions & is tasked with keeping **inflation within the target range of 4% to 6%**.

- The MPC was introduced through an **amendment to the RBI Act, 1934,** and was formally set up in 2016.

- Before that, decisions around **interest rates were taken solely by the RBI Governor.**

- However, with the growing complexity of the economy, the government introduced a more collaborative model, and **thus the MPC was established**

The Central Consumer Protection Authority (CCPA)

- The Central Consumer Protection Authority (CCPA) took strong action against companies **publishing misleading advertisements and unfair trade practice.**

- The CCPA has been established under the **Consumer Protection Act, 2019** and has come into force w.e.f 24th July 2020.

- Its **main powers** include protecting consumer rights, preventing unfair trade practices, and prohibiting false or misleading advertisements, including action against those who publish them.

- It has powers to conduct inquiries and investigations (including suo motu), impose penalties, and pass orders for recalls and refunds, which gives it judicial-like functions.

- The structure of the CCPA is also **mostly central** and besides providing for creation of regional offices, the **Act does not mandate** creation of any State or District Authorities.

- The CCPA would comprise the Chief Commissioner, Commissioners and team of subject matter experts and professionals besides an investigation wing **headed by a Director - General.**

- The CCPA functions under the **Ministry of Consumer Affairs**, Food & Public Distribution

Digital Payments Index (RBI–DPI)

- The Reserve Bank of India (RBI) has recently released a composite **Reserve Bank of India – Digital Payments Index (RBI-DPI).**

- The index for March 2025 stands at **493.22 as against 465.33 for September 2024.**

- The RBI has tracked this **index since March 2018 (base 100)** to measure growth in payment infrastructure and performance.

- Published **semi-annually since March 2021** with a **four-month lag**, it is based on f**ive parameters** that capture the penetration and deepening of digital payments over time

- These **parameters** are:

  - Payment **Enablers** (weightage 25%);

  - Payment **Infrastructure** – **Demand**-side factors (10%);

  - Payment **Infrastructure** – **Supply**-side factors (15%);

  - Payment **Performance** (45%); and

  - **Consumer** Centricity (5%).

- The increase in RBI-DPI index was driven by significant growth in parameters viz. **Payment Infrastructure – Supply-side factors and Payment Performance** across the country over the period.

Banking Laws (Amendment) Act, 2025

- Banking Laws (Amendment) Act, 2025 came into effect from 1st August 2025 and aims to **enhance bank governance,** safeguard depositors, and align cooperative banks with constitutional norms.

- The Act contains a total of **19 amendments across five legislations**—the Reserve Bank of India Act, 1934, Banking Regulation Act, 1949, State Bank of India Act, 1955 and Banking Companies (Acquisition and Transfer of Undertakings) Act, 1970 and 1980.

The amendments aim to:

- Redefine the threshold of **'substantial interest'** from ₹5 lakh to ₹2 crore, revising a limit that has remained unchanged since 1968.

- Align **director tenures in cooperative banks with the 97th Constitutional Amendment** by increasing the **maximum tenure from 8 years to 10 years** (excluding the chairperson and whole-time director).

- Public sector banks (PSBs) will now be **permitted to transfer unclaimed shares, interest, and bond redemption amounts** to the **Investor Education and Protection Fund (IEPF)**, bringing them in line with practices followed by companies under the Companies Act.

Substantial Interest:

- Before the enactment of the new law, under the **Banking Regulation Act**, substantial interest in a company **referred to holding shares of over five lakh rupees or 10%** of the paid-up capital of the company, whichever was lower.

- This may be held by an individual, his spouse, or minor child, either individually or collectively.

Investor Education and Protection Fund (IEPF):

- It falls under the **Ministry of Corporate Affairs** and aims **to promote investor awareness,** ensure effective grievance redressal, and facilitate the recovery of unclaimed investments through accessible and user-friendly platforms

Hong Kong Enforces Stablecoin Licensing

- The **Hong Kong Monetary Authority** has made it illegal to issue or market **unlicensed fiat-referenced stablecoins (FRS)** to the public.

- Stablecoins are **cryptocurrencies** pegged to assets like **fiat currencies** (USD, EUR, HKD), commodities (gold), or even other crypto, to maintain stable value—unlike volatile coins such as Bitcoin or Ether.

  - ☛ **Fiat means government-issued currency** that is not backed by a physical commodity like gold or silver but by the trust in the issuing government and its central bank.

  - ☛ Example: **Tether (USDT)** pegged to USD.

- Stablecoins differ from Central Bank Digital Currencies (CBDC) like **Digital Rupee (e₹)**, which are official digital currency issued and fully backed by a country's central bank and is a **sovereign legal tender**.

  - ☛ Stablecoins, on the other hand, can be privately issued and pegged to foreign currencies.

- Companies in Hong Kong **must now obtain a licence,** maintain proper reserves, ensure redemption, stabilise assets, process user requests, and comply with anti–money laundering and counter-terror financing rules, with assets disclosed and audited.

PAHAL Scheme

- The **Ministry of Petroleum & Natural Gas** recently informed that over 4 crore duplicate LPG Connections were deactivated to curb misuse with the help of **PAHAL Scheme.**

- The **PAHAL (Pratyaksh Hanstantrit Labh) Scheme** has been implemented since January 2015 for transparent and effective disbursal of subsidies across the country.

- Under the scheme, **all domestic LPG cylinders are sold at non-subsidised prices** and the applicable subsidy is transferred **directly into the bank account of the consumers.**

- Once the subsidy is credited, the consumer **receives an SMS confirming the subsidy deposit.**

- From January 2016 onwards, consumers or spouses with taxable incomes above Rs. 10 lakhs **are not eligible for the subsidy.**

- The PAHAL has played a crucia**l role in identifying and blocking 'ghost' accounts**, multiple accounts, and inactive LPG connections, thereby curbing the diversion of subsidised LPG for commercial use.

Pradhan Mantri Viksit Bharat Rozgar Yojana (PM–VBRY)

- The Government recently approved the **Employment Linked Incentive (ELI) Scheme** named as Pradhan Mantri Viksit Bharat Rojgar Yojna to support employment generation.

- The Scheme will be implemented by **the Ministry of Labour & Employment** through Employees Provident Fund Organisation (EPFO), a statutory body under the **Employees' Provident Funds & Miscellaneous Provisions Act of 1952.**

- With an outlay of Rs 99,446 Crore, the PMVBRY aims **to incentivize the creation of more than 3.5 Crore jobs in the country, over a period of 2 years.**

- The Scheme consists of two parts with Part A focused on first timers and Part B focused on employers:

  - ☛ **Part A: Incentive to First-Time Employees:** Targeting **first-time employees** registered with EPFO, this Part will offer one-month EPF wage up to Rs 15,000 in two installments. Employees with salaries up to Rs 1 lakh will be eligible. The 1 installment will be payable after 6 months of service and the 2 installment will be payable after 12 months of service and completion of a financial literacy programme by the employee.

  - ☛ **Part B: Support to Employers:** This part will cover the generation of **additional employment in all sectors**, with a special focus on the manufacturing sector. The employers will get incentives in respect of employees with salaries up to Rs 1 lakh. The Government will incentivize employers, **up**

to Rs 3000 per month, for two years, for each additional employee with sustained employment for at least six months. For the **manufacturing sector,** incentives will be extended to the 3 and 4 years as well.

- All payments to the First Time Employees under Part A of the Scheme will be made through DBT (Direct Benefit Transfer) mode using the **Aadhar Bridge Payment System (ABPS).**

- Payments to the Employers under Part B will be made directly into their **PAN-linked Accounts.**

India's Sustainable Aviation Fuel Production

- The Indian Oil Corporation (IOC) recently received the **international certification - ISCC CORSIA** for manufacturing Sustainable Aviation Fuel (SAF), which they produced from **used cooking oil.**

- The ISCC CORSIA **(International Sustainability and Carbon Certification – Carbon Offsetting and Reduction Scheme for International Aviation)** is a mandatory certification for commercial Sustainable Aviation Fuel (SAF) production.

- Adopted by the International Civil Aviation Organization (ICAO) in 2016, **CORSIA applies only to international flights,** with domestic emissions covered under the UNFCCC and Paris Agreement.

- ICAO set 85% of 2019 emissions as the baseline (2024–2035), with implementation in **two voluntary phases** (2021–26) and a **mandatory phase from 2027**.

- Under this, India's **National Biofuel Coordination Committee (NBCC)** has set SAF blending targets of 1% in 2027 and 2% in 2028 for international flights.

Sustainable Aviation Fuel (SAF):

- SAF is a biofuel that is produced from sustainable feedstocks and has chemistry similar to conventional aviation turbine fuel (ATF) or jet fuel, which is derived from crude oil.

- This means that **existing aircraft engines can easily use the SAF-ATF blend**.

- Airbus claims that all its aircraft are capable of flying on a maximum 50% blend of SAF and conventional fuel and according to the aviation industry, SAF alone is likely to account for over **60% of the global aviation industry's decarbonisation** efforts

New Online Gaming Bill 2025

- Recently, Parliament has passed the Promotion and Regulation of Online Gaming Bill, 2025.

- It **introduces a complete ban on real money gaming**, citing its social, financial, and psychological harms, while simultaneously creating an enabling framework for e-sports and online social games.

Key Highlights

- The legislation is structured around **three key segments of gaming**:

  - ☛ **E-Sports** – Recognised as a creative and recreational industry with strong growth potential, the Bill supports e-sports development as a mainstream sector.

  - ☛ **Online Social Games** – Encouraged as safe entertainment options that do not involve financial risks or addictive gambling mechanisms.

  - ☛ **Online Money Games** – Completely prohibited, covering activities such as fantasy sports, poker, rummy, and other real money-based platforms where players deposit funds with monetary return expectations.

- It **applies to all online games in India**, irrespective of whether such a platform is hosted offshore or within Indian territory also it bans offering, advertising, promoting, or transferring funds for such games.

- The **Central government is empowered to set up a regulatory authority** to recognise, categorise, and register online games.

- Violations of the ban will attract strict penalties, including:

  - ☛ Imprisonment of up to three years and fines up to Rs. 1 crore for first-time offenders.

  - ☛ Enhanced penalties for repeat offenders, including imprisonment between three to five years and fines up to Rs. 2 crore

Swayamshakti Sahakar Yojna and Nandini Sahakar

- The National Cooperative Development Corporation (NCDC) has recently implemented these schemes exclusively for women cooperatives.

Swayamshakti Sahakar Yojna:

- It **aims to provide affordable and accessible credit to women-led Self-Help Groups (SHGs) and cooperatives** for collective socio-economic activities and sustainable livelihoods.

- Features:

  - ☛ Targets Primary Agricultural Credit Societies(PACS),District Central Cooperative Banks (DCCBs),State Cooperative Banks (StCBs), and SHG federated cooperatives.

  - ☛ It enables women SHGs to access low-cost financial services for livelihood generation.

  - ☛ Promotes financial inclusion and self-reliance in rural economies.

Nandini Sahakar:

- It **aims to offer a holistic support system including financial aid, capacity building, and business model** development for women cooperatives.

- Features:

  - ☛ Excludes urban housing but includes all other economic sectors.

  - ☛ Focus on entrepreneurial training, business planning, and interest subvention.

  - ☛ Promotes women-led cooperatives under the vision of Atmanirbhar Bharat.

- Note: **National Cooperative Development Corporation (NCDC)** was established by an Act of Parliament in 1963 as a statutory Corporation under the Ministry of Cooperation and functions include planning, promoting and financing programmes for production, processing, marketing, storage, export and import of agricultural produce etc.

International Relations

Famine Declaration by UN

- The United Nations has declared an **official famine in Gaza** in August 2025, marking the **first such occurrence in West Asia**.

- The Famine Declaration is a formal global classification used by the UN and partners to signal **catastrophic food insecurity**.

- Common causes of famine include **conflicts, natural hazards, economic decline, inadequate humanitarian response**.

- It is declared through the **Integrated Food Security Phase Classification (IPC)** framework, **jointly managed by UN agencies and humanitarian organisations**.

- **Criteria for declaration**

  - ☛ At least 20% of households face extreme food shortages.

  - ☛ Acute malnutrition exceeds 30% in children.

  - ☛ The mortality rate is over 2 deaths per 10,000 people per day.

- Also earlier it has been declared in **Somalia (2011, 2022), South Sudan (2017), Yemen (2018–ongoing risk), Ethiopia's Tigray (2021), Sudan (2024)**.

United Nations High Commissioner for Refugees (UNHCR)

- Recently, the United Nations High Commissioner for Refugees (UNHCR) has **temporarily suspended voluntary repatriation of Sri Lankan Tamil refugees from India** after arrests of returnees in Sri Lanka.

- UNHCR formally known as the Office of the High Commissioner for Refugees is the **UN Refugee Agency**, established in **1950** by the UN General Assembly to **assist people displaced after World War II**.

- It is **headquartered in Geneva**, Switzerland with **operations in 137 countries**.

- UNHCR is **guided by the 1951 Refugee Convention and 1967 Protocol**, which defines refugees and sets global standards for their rights and protection.

- It provides refugee protection, humanitarian aid, promotion of durable solutions (asylum, repatriation, integration, resettlement), and support to states in framing refugee policies under international law.

- **1951 Refugee Convention & 1967 Protocol** defines a refugee as a person outside their home country, unable/unwilling to return due to a well-founded fear of persecution (based on race, religion, nationality, political opinion, or social group).

- Note: UNHCR, a UN agency, is different from **UN Human Rights Council (UNHRC), formed in 2006**, an intergovernmental body of 47 member states elected by the UN General Assembly for 3-year terms that monitors global human rights, reviews country records, and issues recommendations.

- While **UNHCR is operational and field-focused**, the **UNHRC is policy- and monitoring-oriented**, serving as a platform for human rights governance

Schengen Cascade Visa

- The **European Union (EU)** launches a new visa scheme **designed to simplify travel for Indian, Turkish and Indonesian frequent visitors to Europe** called by the name cascade Schengen visa.

- The Schengen Cascade Visa rewards travelers with a clean visa history by offering long-term, multiple-entry visas.

- Applicants with **two valid short-term Schengen visas in the past three years** can get a 2-year multiple-entry visa, later upgradable to 5 years if the passport is valid.

- Visa validity follows a tiered structure (hence called cascade): 1-year for travelers with three visas in two years, 2-year for holders of a 1-year visa, and 5-year for holders of a 2-year visa.

- **Note: Schengen visa** is an entry permit that allows non-EU nationals to temporarily visit or transit through the Schengen Area, which comprises **29 European countries**

Conference on Landlocked Developing Countries (LLDC3)

- The **third UN Conference on Landlocked Developing Countries (LLDC3)** opened in **Awaza, Turkmenistan**, focusing on the challenges of **32 landlocked nations** with over **600 million people**.

- Held once a decade, it seeks to bridge development gaps by promoting **partnerships, investment, and efficient transport corridors**.

- The 2025 meet, themed **"Drivingt Progress through Partnerships",** aims to implement the **Awaza Programme of Action (2024–2034)** adopted by the UN General Assembly to boost connectivity, trade, and sustainable growth.

- **Landlocked Developing Countries (LLDCs)** are countries who lack direct sea access, face hurdles in trade, connectivity, development and due to the absence of coastal ports, they rely on transit nations, causing higher trade costs and delays.

Asia-Pacific Institute for Broadcasting Development (AIBD)

- India has been elected **Chairman of the Executive Board** of the AIBD at its 23rd General Conference in Phuket, Thailand.

- AIBD though **not a UN body** was established in **1977 under UNESCO's initiative and guidance**, but today functions as an **independent body** serving countries of the **UN Economic and Social Commission for Asia and the Pacific (UN-ESCAP)** region.

- Its secretariat is based in **Kuala Lumpur**, Malaysia.

- The International Telecommunication Union (**ITU**), the United Nations Development Programme (**UNDP**), and the Asia-Pacific Broadcasting Union (**ABU**) are founding organizations of the Institute, and they are non-voting members

- Today, AIBD has 92 member organisations from 45 countries under UN-ESCAP.

- India is represented by **Prasar Bharati**, its public service broadcaster under the Ministry of Information & Broadcasting.

New Development Bank (NDB)

- NDB founded by the BRICS nations has appointed Dr Rajiv Ranjan as its vice president and chief risk officer.

- The New Development Bank (NDB), formerly known as the **BRICS Development Bank**, is a **multilateral development bank** operated **by the BRICS states** (**Brazil, Russia, India, China, and South Africa**).

- It aims to mobilize resources for infrastructure and sustainable development projects in **BRICS countries and other emerging economies and developing countries.**

- The idea of setting up NDB was first conceived in 2012 during the BRICS Summit in New Delhi, India and the agreement for establishing the NDB was signed during the BRICS Summit held in Fortaleza **started operations in 2015**.

- It is **headquartered in Shanghai, China**, with regional offices in South Africa and Brazil.

- It **has an initial authorized capital of USD 100 billion** and an initial subscribed capital of USD 50 billion, which was equally distributed among the five founding members.

- While **all UN members can join**, the original BRICS members must retain **at least 55% of voting power**; currently, they hold over 90% (18.45% each).

- **New members** admitted include Bangladesh, the UAE, and Uruguay (2021), Egypt (2021), and Algeria (2024), Indonesia, Colombia and Uzbekistan (2025), increasing the bank's total membership to 13 countries

Intermediate-Range Nuclear Forces (INF) Treaty

- Russia recently declared it no longer considers itself bound by the Intermediate-Range Nuclear Forces (INF) Treaty.

- The treaty was inked by **US President Ronald Reagan and Soviet leader Mikhail Gorbachev in 1987**, ending the deadlock of the Cold War arms race.

- It **banned possessing, producing or test-flying ground-launched ballistic and cruise missiles** with a range of 500 to 5,500km (311 to 3,418 miles).

- More than 2,600 missiles from both sides were destroyed as part of the treaty that covers both nuclear and conventional warheads.

- It **does not cover air-launched or sea-launched weapons.**

- US President Donald Trump **withdrew from the treaty in 2019**, during his first term

RUSSIA

Military head-to-head

The military power of the Armed Forces of the Russian Federation and the United States Armed Forces.

RUSSIA | **UNITED STATES**

	RUSSIA	UNITED STATES
NUCLEAR WARHEADS	4,309	3,700
ACTIVE PERSONNEL	1,320,000	1,328,000
TOTAL AIRCRAFT	4,292	13,043
COMBAT TANKS	5,750	4,640
NAVAL FLEET	419	440

Source: Global Firepower 2025 Military Strength Ranking, Bulletin of the Atomic Scientists | August 5, 2025

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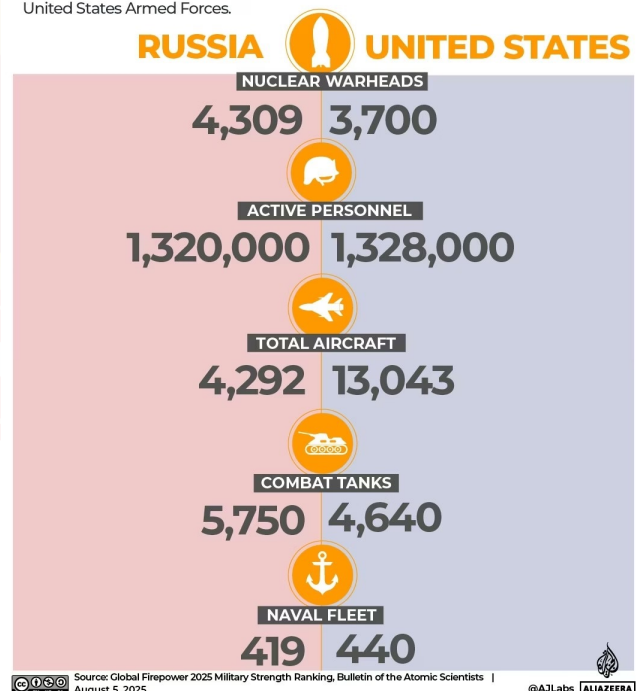
Falepili Union Treaty

- Tuvalu has begun the world's first planned **climate migration** under the **Falepili Union Treaty** with Australia.

- Signed in 2023, the pact allows **280 Tuvaluans annual** permanent residency with full rights in Australia.

- Tuvalu, a central Pacific nation of **nine coral islands** and **11,000 people**, averages just **2 meters above sea level**, making it highly vulnerable to rising oceans.

- **Falepili** is a Tuvaluan cultural concept that means **good neighbourliness, duty of care, and mutual respect.**

OCEANIA

History & Culture

Punaura Dham temple

- The Union Home Minister recently laid the foundation stone for a new **Janaki Temple** at Punaura Dham, Sitamarhi, Bihar. believed to be the mythological **birthplace of Goddess Sita.**

- The **Rs.833 crore** temple will be developed on the **lines of the Ram temple in Ayodhya**.

- The site already has a **100-year-old Janaki Temple** and other sacred places associated with Goddess Sita, namely **Sitakund** (a holy pond), **Sita Vatika** (a garden), and **Luv Kush Vatika** (a garden linked to Sita's sons, Luv and Kush).

- **Mithila**, the kingdom of King Janaka, is mentioned in Vedic texts and was one of ancient India's 16 **Mahajanapadas**, historically called Tirhut or Tirabhukti, spanning parts of north Bihar and Nepal's Terai region.

Tendong Lho Rum Faat

- Sikkim recently celebrated **Tendong Lho Rum Faat** (Prayer of the Tendong Mountain), a Lepcha festival thanking Idburum, their deity, and the **sacred Tendong Hill.**

- According to legend, the hill saved Lepcha ancestors from a **great flood.**

- Believed to be of **volcanic origin,** it symbolizes divine protection.

- During the festival, Lepchas build **nine-stone models** of the hill outside their homes, perform traditional dances, and wear masks to seek blessings.

Sahariya Tribe

- Recently, researchers from BHU have uncovered a genetic connection explaining the high tuberculosis (TB) rate among the Sahariya tribe.

- They are classified as a **Particularly Vulnerable Tribal Group (PVTG)** and mainly found in **Madhya Pradesh**, **Rajasthan**, and **Uttar Pradesh**.

- They have a total six-lakh population (Census 2011) also called by the names **Seher**, **Sair**, **Savar**, **Saonar**, **Sahra**, etc.

- They mostly live in a separate basti in the village, which is called **'Seharana'**.

- They are known for their dance, the **Saharia Swang**, which is performed during the month of **Holi** where a **male dressed in female attire** dances around the male performers.

Daruma doll

- During the Indian Prime Minister's visit to **Japan**, he was gifted a **Daruma Doll** by the chief priest of Daruma-ji temple.

- Named after **Bodhidharma (Daruma Daishi)**, founder of Zen Buddhism from Kancheepuram, the doll symbolizes resilience and determination.

- Bodhidharma **meditated for nine years** facing a wall at Shaolin Temple, leading to the doll's armless, legless design.

- Considered **auspicious** in Japanese culture, Daruma dolls originate from Takasaki City of Japan.

Athachamayam Procession

- The 2025 Athachamayam procession in **Thrippunitura** marked the start of **Kerala's 10-day Onam festival**, celebrated on the Atham star of the Malayalam month Chingam.

- This historic parade, once the **headquarters of the Cochin Maharaja**s, commemorates the victory of the Kochi king.

- It showcases **Kerala's folk arts,** including theyyam, chendamelam, arjunanrutham, karakattam, padayani, and pulikali, symbolising the arrival of King Mahabali and the Vamana avatar.

Assam's King Prithu

- The Assam Cabinet recently named a key flyover in Guwahati after Raja Prithu, believed to be a **13th-century ruler** credited with **resisting Turko-Afghan incursions**.

- King Prithu, also referred to as **Raja Prithu Rae** supposedly ruled **Kamarupa kingdom**, which corresponds to modern-day Assam.

- He is supposed to belong to the **Khen dynasty**, who drew their lineage from Narakasura and they worshipped **Kamteswari**, an incarnation of Hindu Goddess Durga.

- He is credited with repelling the Turko-Afghan general **Bakhtiyar Khilji's incursion** around **1206 CE**, however direct evidence does not exist.

🦅 Bakhtiyar Khilji, a general **under Muhammad of Ghor**, was one of the earliest Turko-Afghan commanders who **attacked Nalanda University**.

- He is also credited by some historians to having defeated **Ghiyasuddin Iwaj Shah** (Bengal Sultan) who aimed to conquer kamrupa in 1226

- King Prithu is ultimately believed to have been killed in a battle against **Nasiruddhin Mahmud** (Sultan of Delhi).

- Some historians also state that the only evidence about Prithu is from the **Tabaqat-i-Nasiri of Minhaj-i-Siraj,** and is actually about another ruler **Brithu of Awadh**.

Geography

Gangotri Glacier System (GGS)
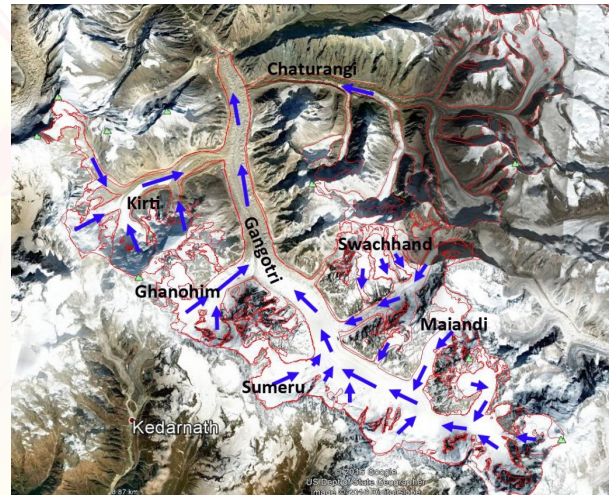
- A study by IIT Indore and ICIMOD (Nepal) reveals that the Gangotri Glacier System (GGS), the **primary source of the Ganga**, has lost 10% of its snowmelt flow over 1980–2020 due to rising temperatures and climate change.

- It is located in **Uttarkashi** district of Uttarakhand within **Gangotri National Park,** is **one of the largest Himalayan glaciers** originating from the northern slopes of the **Chaukhamba range**.

- It is a **compound valley glacier**, fed by several tributary glaciers like **Meru,Raktvarn**, **Chaturangi**, and **Swachand** glaciers.

- It is fed by peaks including **Shivling**, **Thalay Sagar**, **Meru**, and **Bhagirathi III** and it **terminates at Gaumukh**, from where the Bhagirathi River emerges and later joins the Alaknanda to form the Ganga at Devprayag.

Bhalukona–Jamnidih Block
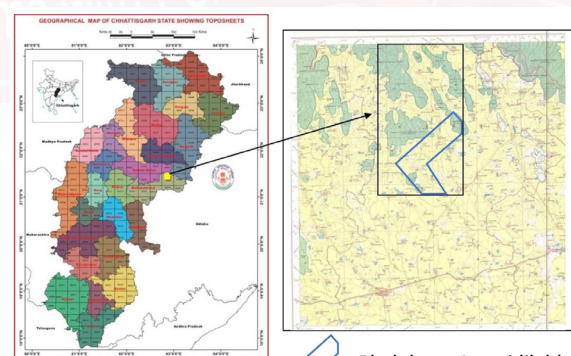
Bhalukona-Jamnidih block

- A potential **Nickel–Copper–Platinum Group Elements (Ni–Cu–PGE) mineral zone** has been recently discovered in the Bhalukona–Jamnidih block of **Chhattisgarh**.

- The Ni–Cu–PGE-associated block spans 3,000 hectares, around 70 km from Raipur.

- Geophysical surveys indicate the presence of **sulphide mineralization** extending up to 300 meters in depth, pointing to substantial resource potential,
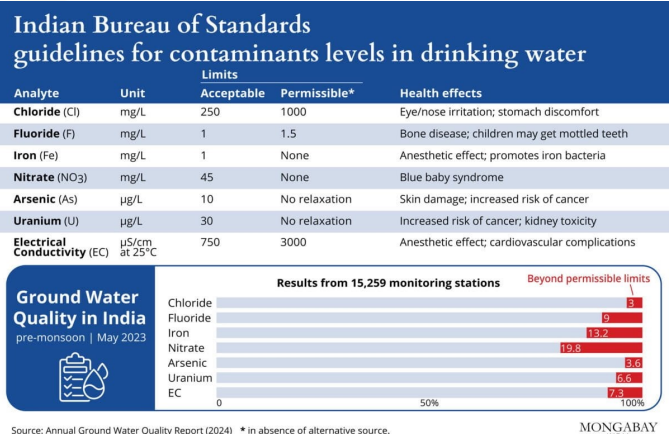
- Adjacent to this discovery zone lies the **Kelwardabri Ni, Cr and PGE Block.**

- Ni–Cu–PGE deposits are formed from **magmas, specifically mafic (like basalt) and ultramafic (like komatiite)** rocks, which originate from the Earth's mantle.

- The Platinum Group Elements include platinum, palladium, rhodium, ruthenium, iridium, and osmium.

- These deposits are globally significant resources, with their **metals essential** for stainless steel, high-strength alloys, electrical infrastructure, catalytic converters, electronics, and emerging technologies like electric vehicle batteries.
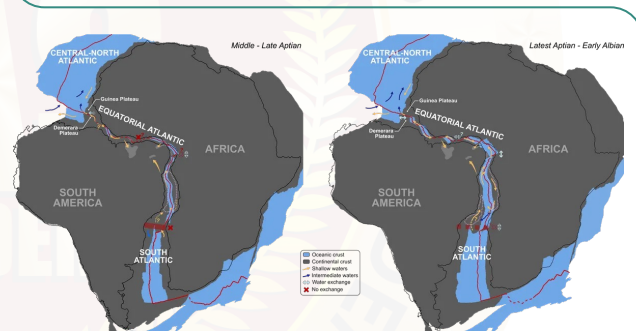
Groundwater Contamination in India

- The 2024 **Annual Groundwater Quality Report** by the **Central Ground Water Board (CGWB)** reveals alarming findings.

- Despite India's rivers and seasonal monsoons, it is groundwater that sustains most of the nation's domestic and agricultural needs.

- Over 85% of rural drinking water and 65% of irrigation water come from below the surface.

Key Findings:

- **Nitrates**: More than 20% of samples from 440 districts were contaminated with nitrates, largely due to the overuse of chemical fertilisers and leaching from septic systems.

- **Fluoride**: Excessive fluoride was detected in over 9% of samples, causing widespread dental and skeletal fluorosis—particularly in Rajasthan, Andhra Pradesh, and Telangana.

- **Arsenic**: Arsenic levels in parts of Punjab and Bihar far **exceeded the World Health Organization (WHO) limit of 10 µg/L,** increasing the risk of cancer and neurological disorders.

- **Uranium:** Districts in Punjab, Andhra Pradesh, and Rajasthan reported uranium concentrations above **100 ppb—attributed to phosphate fertilisers** and unregulated groundwater withdrawal.

- **Iron:** Over 13% of tested samples also exceeded safe limits for iron, contributing to gastrointestinal and developmental disorders.

- **Heavy metals**—lead, cadmium, chromium, mercury—enter groundwater from unchecked industrial discharges, causing developmental delays, anaemia, immune system issues, and neurological damage.

Indian Bureau of Standards guidelines for contaminants levels in drinking water

Analyte	Unit	Limits Acceptable	Permissible*	Health effects
Chloride (Cl)	mg/L	250	1000	Eye/nose irritation; stomach discomfort
Fluoride (F)	mg/L	1	1.5	Bone disease; children may get mottled teeth
Iron (Fe)	mg/L	1	None	Anesthetic effect; promotes iron bacteria
Nitrate (NO3)	mg/L	45	None	Blue baby syndrome
Arsenic (As)	µg/L	10	No relaxation	Skin damage; increased risk of cancer
Uranium (U)	µg/L	30	No relaxation	Increased risk of cancer; kidney toxicity
Electrical Conductivity (EC)	µS/cm at 25°C	750	3000	Anesthetic effect; cardiovascular complications

Ground Water Quality in India pre-monsoon | May 2023

Results from 15,259 monitoring stations — Beyond permissible limits

Chloride	3
Fluoride	9
Iron	13.2
Nitrate	19.8
Arsenic	3.6
Uranium	6.6
EC	7.3

Source: Annual Ground Water Quality Report (2024) * in absence of alternative source.

MONGABAY INDIA

Mud Wave

Middle - Late Aptian | Latest Aptian - Early Albian

- Scientists have found 117-million-year-old mud waves **beneath the Atlantic seabed near Guinea-Bissau.**

- **Mud waves** are large, wave-like sedimentary structures found on the seafloor.

- They are formed by the continuous action of **deep-sea currents** that move fine sediments like mud, clay, or silt across the ocean bottom

- The Atlantic mud waves, over a kilometer long and hundreds of meters high, were formed by **strong underwater currents when salty water from the young North Atlantic spilled** into southern basins.

- They **mark the Equatorial Atlantic Gateway,** created when South America and Africa split, forming the Atlantic Ocean.

- This new seaway **initially reduced ocean carbon burial**, leading to global warming between 117–110 million years ago.

- The study shows how past ocean circulation shaped climate, helping predict future changes.

National Deep Water Exploration Mission

- The Indian Prime Minister announced the **National Deep Water Exploration Mission** to boost offshore oil and gas discovery in deep waters, especially in the Andaman Sea and off the Andhra coast.

- The initiative, termed **"Samudra Manthan,"** aims for energy self-reliance by exploring high-potential areas, including those recently opened up in the Andaman-Nicobar basin.

- The mission will complement **India's Deep Ocean Mission** launched in 2021 by the Ministry of Earth Sciences (MoES) with an aim to **develop technologies for exploring** and sustainably utilizing the deep ocean's living and non-living wealth.

- Recently, nearly 1 million sq km of erstwhile **'No-Go' areas** along Andaman-Nicobar basin **have been opened up** for exploration and put up for bidding.

- Deep waters off the **Andhra coast and Andaman Sea** are considered high-potential exploration zones due to their **tectonic setting** and **proximity** to proven petroleum systems in Myanmar and North Sumatra, attracting global interest

Environment & Ecology

Matri Van initiative

- Recently, the Union Minister for Environment, Forest and Climate Change, along with the Union Minister for Housing and Urban Affairs launched the 'Matri Van' initiative, a project under the **'Ek Ped Maa Ke Naam' campaign**.

- The initiative is a **theme-based urban forest project** spanning 750 acres in the **Aravalli Hills**, being developed in Gurugram, Haryana.

- It is envisioned as a **unique ecological and cultural space** that will contribute to biodiversity, public well-being, and urban sustainability.

- This vision would be achieved through a **multi-stakeholder collaboration** involving CSR partners, Resident Welfare Associations (RWAs), NGOs, multinational corporations (MNCs), school children and government organizations.

- The main components of the 'Matri Van' would include removal of existing bushes like **Kabuli Kikar (Prosopis juliflora)** and plantation of NativeTrees.

- And it would further include nature trails, cycle track, yoga places, sitting places/gazebos, public facilities, etc

Rhisotope Project

- Recently, a South African University, in collaboration with the **International Atomic Energy Agency (IAEA)** has launched an innovative **rhino anti-poaching initiative** using **radioactive isotopes** (radioisotopes).

- It involves a **non-invasive procedure** where **measured low doses of radioisotopes** are injected into **the horns of live rhinoceroses**.

- This makes the **horn useless and toxic for human consumption**, while the procedure is safe for rhinoceroses.

- The radioactively treated rhino horns are identifiable by **Radiation Portal Monitors (RPMs) and scanners** at **borders**, **ports**, and **airports**, even inside fully loaded containers which makes the horns dangerous to smugglers and less marketable in illegal trade.

- The project began with five rhinos treated in the **Waterberg Biosphere Reserve** and aims to scale up for mass treatment to protect South Africa's declining rhino population.

Great Barrier Reef (GBR) Coral Decline

Where is the Great Barrier Reef Located?

- According to a recent survey by the **Australian Institute of Marine Science (AIMS)**, Australia's Great Barrier Reef (GBR) has recorded its worst annual coral decline in nearly four decades, mainly **due to severe mass bleaching in 2024**.

- The GBR is a **UNESCO World Heritage site** and located in the **Coral Sea** off the coast of Queensland, Australia.

- Coral bleaching is when corals **become white** due to the **loss of symbiotic algae** and photosynthetic pigments, causing coral polyps to **expel the zooxanthellae** that live inside their tissue, causing the coral to turn white.

- The widespread mass bleaching of the Great Barrier Reef was **first seen in 1998** and happened again in **2002, 2016, 2017, 2020, 2022 and 2024**

Key Findings:

- They surveyed 124 reefs across the northern, central, and southern GBR of these reefs, **48% showed a decline in hard coral cover**, 42% showed no net change, and **only 10% showed an increase**.

- In some locations, hard coral cover fell by more than 70%, marking the sharpest decline since long-term monitoring began in 1986.

- The northern GBR, **average coral cover dropped from 39.8% to 30%**, a 24.8% decline, particularly around Lizard Island, which experienced the worst heat stress on record.

Sea of Galilee turns red

- Recently, the Sea of Galilee in **Israel** has turned red due to the bloom of **Botryococcus braunii algae**.

- It is a **large freshwater lake** situated in the northeastern part of Israel and considered as the **lowest freshwater lake on the planet** and the **world's second-lowest lake after the Dead Sea**.

- Botryococcus braunii is a species of **single-celled green algae** found in freshwater or brackish lakes under the Chlorophyta group.

- It produces **carotenoid pigments** that turn **red in sunlight** which is the cause of red colour in the sea of galilee.

- Climate change-induced warming and nutrient-rich waters (phosphorus, nitrogen) are the causes for triggering the blooming of the algae.

- While **it is not harmful to humans**, blooms can block sunlight underwater, cause **hypoxia** upon decomposition, and disrupt aquatic ecosystems.

Equator Prize 2025

- Recently, Bibi Fatima Women's Self-Help Group from a village in Kundgol taluk of Dharwad district, Karnataka has bagged the 'Equator Prize 2025' given by the **United Nations Development Programme (UNDP)**.

- The Equator Prize, started in 2002, is an international award recognizing outstanding **efforts by Indigenous peoples and local communities in reducing poverty** through the conservation and sustainable use of biodiversity.

- It is a biennial award administered by the **Equator Initiative**, a partnership hosted by the **United Nations Development Programme (UNDP).**

- The Award is also referred to as the **Nobel Prize for Biodiversity Conservation** and the award includes a **cash prize of $10,000** (approximately ₹8.5 lakh).

- And this year, the award selection was based on the theme "**Women and Youth Leadership for Nature-Based Climate Action**".

- **Selection Criteria:** Winners are chosen by an independent committee based on impact (environmental, social, economic benefits across SDGs), innovation (new approaches to sustainability), scalability/replicability, resilience and adaptability, reduction of inequalities, social inclusion, and gender equality.

- **Eligibility**: Initiatives must be at least 3 years old, community- or Indigenous-led, rural-based, and nature-based with benefits for two or more SDGs.

- **Eligible Initiatives:** Community associations, cooperatives, women's and youth groups, Indigenous or minority organizations, and NGOs.

- **Eligible Countries:** Community groups must be from UNDP-supported countries, while Indigenous Peoples can apply from anywhere, including the Global North (e.g., US, EU, Canada, Japan, Australia).

- Several **Indian organizations** like the Deccan Development Society and Kudumbashree Mission are among its notable winners

International Big Cat Alliance (IBCA)

- Nepal officially joined the International Big Cat Alliance (IBCA) in August 2025.

- IBCA is an **India-led global multi-country, multi-agency coalition** of more than 95 big cat range and non-range countries dedicated to conserving **7 big cat species and their habitats**.

- It was proposed by PM Modi in 2019, officially **launched in April 2023** on Project Tiger's 50th anniversary.

- It works to protect seven big cats: **tiger, lion, leopard, snow leopard, cheetah, jaguar, and puma;** out of this **India hosts 5 of the 7** (Puma and Jaguar are not found in India).

- The primary objective of IBCA is to facilitate collaboration and synergy among stakeholders, consolidating successful conservation practices and expertise into a centralized repository.

- And the alliance would give the member countries a **forum to exchange information and skills** and to lend assistance to recovery initiatives in possible habitats

National Designated Authority for Carbon Trading (NDA)

- The **Ministry of Environment, Forest and Climate Change (MoEFCC)** has set up a National Designated Authority (NDA) to implement a **carbon emissions trading system** under **Article 6 of the Paris Agreement (2015)**.

- It is a key step in India's climate strategy to meet its **Nationally Determined Contributions (NDCs)**.

- It is a **21-member committee headed by the Secretary of the Environment Ministry** which oversees and authorizes carbon credit projects.

- It will **recommend projects eligible for carbon credit trading** under **Article 6.4** of Paris agreement and approve these projects for participation in the carbon market and **authorize the emission reduction units (ERUs)** generated.

- And this committee will ensure that the projects align with India's Sustainable Development Goals (SDGs), focusing on initiatives like green hydrogen, carbon capture, and afforestation.

Kyoto Protocol (1997)

- Recently, the International Court of Justice (ICJ) has clarified that the Kyoto Protocol (1997) remains **legally valid and binding**, even after the Paris Agreement (2015) came into effect which revives the legal status of Kyoto protocol.

- The Kyoto Protocol, the **first international treaty to set legally binding targets to cut greenhouse gas emissions** was **adopted in 1997**, in Kyoto, Japan.

- It **entered into force in 2005** under the UN Framework Convention on Climate Change (UNFCCC) and based on the principle of **Common but Differentiated Responsibilities and Respective Capabilities (CBDR–RC)**.

- CBDR puts the obligation to reduce current emissions on developed countries on the basis that they are historically responsible for the current levels of greenhouse gases in the atmosphere.

- The **Protocol targeted 6 greenhouse gases**:carbon dioxide, Methane, nitrous oxide, Hydrofluorocarbons, Perfluorocarbons, sulfur hexafluoride and **had two commitment periods: 2008–2012 and 2012–2020**.

- And it classified the parties of the protocol into **Annex I** - Developed countries + Economies in transition (EIT), **Annex II** - Developed countries (Annex II is a subset of Annex I), **Annex B** - Annex I Parties with first or second-round Kyoto greenhouse gas emissions targets, **Non-Annex I** - Parties to the UNFCCC not listed in Annex I of the Convention, **LDCs** - Least-developed countries with no binding targets to reduce GHG emissions.

- Key Obligations:

  ☞ Emission reductions by Annex-I countries (from 1990 baseline).

  ☞ Finance and technology transfer to developing nations.

  ☞ Creation of mechanisms like Clean Development Mechanism (CDM).

- But later Annex I countries exited or stopped complying to the protocol leading to malfunctioning of the protocol.

Science & Technology

Primary Amoebic Meningoencephalitis – PA

- Recently, three cases of primary amoebic meningoencephalitis (PAM) have been reported in Kerala, leading to the death of a 9-year-old and infecting a 3-month-old baby.

- It is a rare and often **fatal brain infection** caused by **Naegleria fowleri amoeba** or **brain-eating amoeba**, found in contaminated warm, freshwater sources like wells and ponds.

- Amoeba **enters the body through the nose** during swimming or bathing in contaminated freshwater, travels to the brain, causing tissue destruction and swelling and **it is not transmitted through drinking water or person-to-person**.

- Early symptoms include **headache, fever, nausea, vomiting, progressing to a stiff neck, confusion, seizures, hallucinations, and coma**.

- **Mortality is extremely high (>95%)**, with most patients dying within 1–18 days, often within 5 days of onset.

- There is **no effective treatment available**, currently combination of drugs including amphotericin B, azithromycin, fluconazole, and others are recommended to manage the infection.

Rubella

- The **World Health Organization (WHO)** declared **Nepal free of rubella as a public health problem** in August 2025, making it the **first country in WHO's Southeast Asia Region to achieve** this milestone.

- Rubella (**German measles**), is a highly contagious **viral infection** caused by the **rubella virus,** an enveloped single-stranded RNA virus, which causes mild fever and rash.

- It **spreads through respiratory droplets** when an infected person coughs or sneezes.

- It is **mild in children and adults**, but poses **serious risks to pregnant women**, potentially leading to miscarriage, stillbirth, or **Congenital Rubella Syndrome (CRS) in infants**.

- The **Measles-Mumps-Rubella (MMR) vaccine** is the most effective preventive measure, **administered in 2 doses** to provide **long-term immunity** against rubella and its complications.

Hepatitis D

- The **World Health Organization (WHO)** has reclassified **Hepatitis D Virus (HDV)** as **carcinogenic**.

- **Hepatitis** is a **liver inflammation** from viral infections, autoimmune disorders, alcohol/drug toxicity and has **five main viral types: A, B, C, D, and E**.

- Hepatitis D is a defective virus that depends on the **Hepatitis B Virus (HBV)** for infection and replication.

- It causes co-infection or superinfection with HBV, **increasing risk of liver cirrhosis and hepatocellular carcinoma** (a type of liver cancer) **by 2–6 times compared to HBV alone**.

- The mode of transmission of Hepatitis D is similar to hepatitis B and C, that is through **parenteral route or injections and transfusion, mother to child transmission and sexual contact**.

- Diagnosis of hepatitis D involves blood tests **detecting HDV RNA** or antibodies also **universal hepatitis B vaccination indirectly prevents hepatitis D**.

Sleeping Sickness

- **Kenya** has been certified by the **World Health Organization (WHO)** as **free from Human African Trypanosomiasis HAT (sleeping sickness)**, becoming the 10th African nation to eliminate the disease as a public health problem.

- It is a **vector-borne parasitic disease** caused by the **Trypanosoma parasite**.

- These parasites are passed to humans through the bite of **infected tsetse flies**, which get the infection from humans or animals carrying the parasites.

- It **takes 2 forms**, depending on the subspecies of the infecting parasite: **Trypanosoma brucei gambiense** (92% of reported cases) and **Trypanosoma brucei rhodesiense** (8%).

- Parasites enter the bloodstream and lymphatic system (first stage), without treatment they cross into the central nervous system, damaging the brain (second stage) and in later stages it disrupts sleeping pattern, hence named sleeping sickness

African Trypanosomiasis
Trypanosoma brucei gambiense & Trypanosoma brucei rhodesiense

Tsetse Fly Stages | Mammalian Stages

① Tsetse fly takes a blood meal (injects metacyclic trypomastigotes)

② Injected metacyclic trypomastigotes transform into bloodstream trypomastigotes, which are carried to other sites.

③ Trypomastigotes multiply by binary fission in various body fluids, e.g., blood, lymph, and spinal fluid.

④ Circulating trypomastigotes in blood during acute phase; usually undetectable in latent phase.

⑤ Tsetse fly takes a blood meal (bloodstream trypomastigotes are ingested)

⑥ Bloodstream trypomastigotes transform into procyclic trypomastigotes in the vector midgut. Procyclic trypomastigotes multiply by binary fission.

⑦ Procyclic trypomastigotes leave the midgut and transform into epimastigotes.

⑧ Epimastigotes multiply in salivary gland. They transform into metacyclic trypomastigotes.

Infective stage
Diagnostic stage

Cattle and possibly wild ungulates are reservoirs for *T. b. rhodesiense*.

India's Atlantic Deep Ocean Dive

- India reached a new milestone in ocean exploration recently where two Indian aquanauts descended to depths of 4,025 and 5,002 metres in the Atlantic Ocean which places **India among fewer than six nations to explore such extreme ocean depths**.

- The **expedition was conducted with IFREMER**, the French marine research institute and the Indian aquanauts boarded the **Nautile submersibl**e from the research ship L'Atalante near Portugal.

- This sets the stage for India's upcoming **Samudrayan Mission**, which aims to reach 6,000 metres using the indigenous submersible MATSYA-6000 by 2027.

- **Samudrayaan aims to send three aquanauts** to a **depth of 6,000 meters** in the indigenously developed submersible MATSYA-6000 by 2027.

- MATSYA-6000 is first-of-its-kind, **fourth-generation scientific submersible designed** for an **operational endurance of 12 hours** and an **emergency endurance of up to 96 hours**.

Surya AI

- Recently, NASA has launched Surya, **an advanced artificial intelligence model** designed to transform space weather prediction.

- It is **developed by NASA alongside IBM** and trained on **nine years of Solar Dynamics Observatory data**.

- It offers **early and accurate forecasts of solar flares, eruptions and coronal mass ejections (CMEs)**.

- It **uses machine learning** to analyse vast solar data sets and unlike traditional models, it detects subtle solar activity patterns and **predicts eruptions up to two hours in advance**.

- This improves forecast accuracy and lead time, **offering better preparedness against space weather threats**.

- Its **open-source nature** encourages researchers worldwide to develop new applications and improve forecasting.

- **Note : Coronal Mass Ejections** are large expulsions of plasma and magnetic fields from the sun's atmosphere:the corona, that propagate outward into interplanetary space which disrupts satellites, powergrids etc

Lunar Module Launch Vehicle (LMLV)

- The **Indian Space Research Organisation (ISRO)** is developing its **heaviest rocket**, named the Lunar Module Launch Vehicle (LMLV), aimed **to be ready by 2035 for lunar missions**, **including the planned first human mission to the Moon by 2040**.

- It is an **improved version of the NGLV (Next Generation Launch Vehicle)** and designed to be as tall as a 40-storey building, surpassing the current most powerful rocket, the LMV-3.

- It is being designed as a **three-stage heavy-lift rocket** with advanced propulsion technologies where the first two stages rely on liquid propellants, while the third stage will employ cryogenic propulsion.

- It is capable of carrying a payload limit of approximately **27 tonnes to the Moon** and **80 tonnes to low Earth orbit (LEO)**.

- It **enables crewed lunar missions by 2040, carry larger payloads to the Moon ,support deep space exploration and also** helps to **enhance India's self-reliance in human spaceflight technology**.

Integrated Air Drop Test (IADT-1)

- Recently, **Indian Space Research Organisation (ISRO)** successfully conducted its first Integrated Air Drop Test (IADT-1) for the **Gaganyaan mission**.

- It aimed to validate the **performance of the parachute-based deceleration system** for the **Crew Module (CM)** of the Gaganyaan mission in a real-world scenario.

- It was a **critical exercise** to validate the parachute system that will bring back astronauts safely under the Ganganyaan mission.

- The test involved collaborations between **ISRO, Defence Research and Development Organisation (DRDO), the Indian Air Force, Indian Navy, and Indian Coast Guard**.

Gaganyaan mission:

- It is **India's first human spaceflight program**, aiming to **send a crew of 3 astronauts to Low Earth Orbit (LEO) at 400 km** for 3 days and return them safely to Earth.

- It is launched in **Human-Rated Launch Vehicle (HLVM3)** which is a modified version of ISRO's LVM3 rocket, **including solid, liquid, and cryogenic stages**, re-configured to meet human rating requirements.

- It will place **India among the elite group of nations (US, Russia, China)** with human spaceflight capability.

Orbiting Carbon Observatory (OCO)

- Recently, the Trump administration asked to shut down NASA's Orbiting Carbon Observatories (OCO) program.

- OCOs are a series of dedicated **Earth remote sensing satellites** that were designed **specifically to observe atmospheric CO2 from space** in order to better understand the characteristics of climate change.

- The first mission of the series failed soon after launch in February 2009.

- A replacement satellite, **OCO-2**, was launched in July 2014, was built **based on the original OCO mission** to minimise cost, schedule, and performance impacts.

- In 2019, a third mission, **OCO-3**, was **sent to the International Space Station (ISS)** to further enhance the observation of atmospheric CO2.

- NASA and other agencies have used the data from this **to create high-resolution maps of plant growth around the world** that's useful to farmers, useful to rangeland and grazing and **drought monitoring and forest mapping** and all kinds of things, in addition to the CO2 measurements.
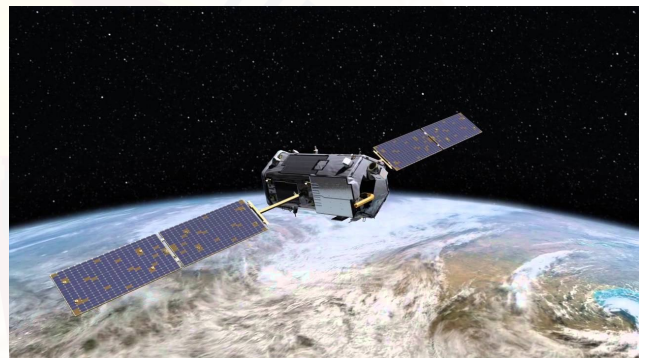
Global Artificial Intelligence (AI) City Index 2025

- Recently, Bengaluru has secured the 26th rank in the Global Artificial Intelligence (AI) City Index 2025, emerging as India's top AI R&D and data centre hub.

- It is a **global benchmarking report** that evaluates cities on their capacity, investment, and innovation in artificial intelligence and published by market research firm **Counterpoint Research**.

- It aims to identify and rank leading global urban centres driving AI development across R&D, infrastructure, governance, and real-world AI use.

- **India's Performance in AI City Index 2025:**

  - Bengaluru ranked 26th globally; India's top AI city with a vibrant startup and data ecosystem.

- 🖝 Mumbai and Delhi leverage AI in traffic and public security, with growth potential.

- 🖝 Other Indian cities in top national ranks include Chennai and Kolkata.

- 🖝 Report flags need for a stronger AI roadmap and regulatory frameworks in India.

- **Top Five Global Rankings** of Global AI City Index are **Singapore, Seoul, Beijing, Dubai, and San Francisco**.
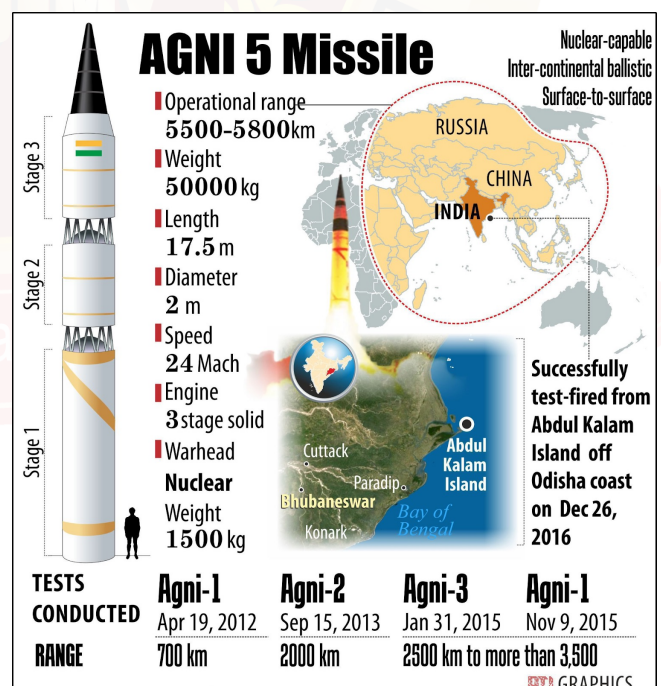
Tritium

- Recently, a global study has confirmed that the **Japan's Fukushima Daiichi Nuclear Power Plant's tritium wastewater release poses negligible risk.**

- Tritium is the only **radioactive isotope of hydrogen** which has the same number of protons and electrons as hydrogen but has 2 neutrons, whereas regular hydrogen does not have any.

- It occurs **naturally** from cosmic ray interactions in the upper atmosphere and is also produced in **nuclear reactors** and weapon tests.

- With a half-life of **12.33 years**, it beta decays and becomes Helium-3 (^{3}He).

- Chemically behaves like hydrogen and forms tritiated water (HTO) when interacted with oxygen.

- Uses include as fuel in nuclear **fusion reactors** (paired with deuterium), **boost nuclear weapons** yield (thermonuclear weapons). **glow-in-the-dark lighting**, **emergency signs**, **runway lights**, and as a **tracer in biomedical research** for diseases like cancer and heart conditions.

Defence

Agni–5

- India has successfully test-fired the **Agni-5**, a nuclear-capable Intercontinental Ballistic Missile (ICBM) with **MIRV technology**, from Chandipur, Odisha.

- Multiple Independently Targetable Reentry Vehicle (MIRV) is a technology which allows a single long-range missile to carry several warheads, each capable of striking different, independently chosen targets hundreds of kilometers apart.

- Developed by **DRDO** under the **Integrated Guided Missile Development Programme (IGMDP)**, which also produced Prithvi, Trishul, Nag, and Akash.

- Agni-5 can strike targets over **5,000 km** away, placing India among the few nations (US, Russia, China, France) with MIRV capability.

- **Ballistic Missiles** are rocket-propelled, self-guided weapons following a ballistic path, capable of carrying conventional, chemical, biological, or nuclear warheads.

- They can be launched from land, air, sea, or submarines. Based on range, they are classified as: **Short (<1,000 km), Medium (1,000–3,000 km), Intermediate (3,000–5,500 km), and Intercontinental (>5,500 km).**

AGNI 5 Missile

Nuclear-capable Inter-continental ballistic Surface-to-surface

- Operational range **5500-5800** km
- Weight **50000** kg
- Length **17.5** m
- Diameter **2** m
- Speed **24** Mach
- Engine **3** stage solid
- Warhead **Nuclear** Weight **1500** kg

Successfully test-fired from Abdul Kalam Island off Odisha coast on Dec 26, 2016

TESTS CONDUCTED	Agni-1 Apr 19, 2012	Agni-2 Sep 15, 2013	Agni-3 Jan 31, 2015	Agni-1 Nov 9, 2015
RANGE	700 km	2000 km	2500 km to more than 3,500	

PTI GRAPHICS

Military Exercises

Exercise	Participants	ForceForce	About
Ulchi Freedom Shield	US - South Korea	Multi-Force	This annual exercise was held in South Korea, with key activities taking place at Osan Air Base.
Maitree Exercise 2025	India -Thailand	Military	The 14th edition of the exercise commenced at the Joint Training Node, Umroi in Meghalaya.
Sustainable Power 1404	Iran	Military	It was held in the **Gulf of Oman and the Indian Ocean.** Iran's navy vessels launched missiles at sea targets during the drill.
Bright Star 2025	Multilateral	Tri Services	It has been hosted by Egypt in conjunction with the US since 1980. The exercise is held biennially, with the last edition having taken place in 2023.
Achook Prahar 2025	The Indian Army - the Indo-Tibetan Border Police (ITBP)	Military	Held in Arunachal Pradesh, this drill tested their combat readiness and operational synergy under simulated battlefield conditions.
Super Garuda Shield 2025	Multilateral	Military	Originally established in 2006 as a bilateral information and training exchange between the **United States and Indonesia.** Participants of this annual exercise include Indonesia, the United States, India, Australia, Canada, the United Kingdom, Japan, Brazil, South Korea, the Netherlands, New Zealand, Singapore, Germany, and France.

India's Indigenous Integrated Air Defence Weapon System (IADWS)

- India recently conducted the maiden flight test of its all-indigenous Integrated Air Defence Weapon System (IADWS) off the coast of Odisha.

- It is a **multi-layered**, network-centric air defence system **developed by DRDO** under **Project Sudarshan Chakra** which aims to provide comprehensive protection for military and national assets and to counter modern aerial threats from high-speed aircraft and cruise missiles to drones, swarm UAVs, and loitering munitions.

- It integrates **Quick Reaction Surface-to-Air Missile (QRSAM)**, **Very Short Range Air Defence System (VSHORADS)**, and **Directed Energy Weapon (DEW)** into a unified command system.

- At centre, there is a **Centralised Command and Control Centre (C2C2)**, which integrates radar and electro-optical sensor feeds, generating a real-time air picture.

- Based on target speed, altitude, and trajectory, C2C2 assigns the most effective weapon:

  - **QRSAM (outer layer)**: Engages fast jets, helicopters, and cruise missiles at 25–30 km range, ~10 km altitude.

  - **VSHORADS (middle layer)**: Infrared-seeker based, effective against low-flying UAVs/helis within 6 km range, 4 km altitude.

  - **Directed Energy Weapon (inner layer)**: High-power laser neutralises drones and loitering munitions at close range; cost-effective with unlimited firing capacity.

- Note: **Project Sudarshan Chakra** is India's proposed integrated, multi-layered air and missile defense system, designed to protect the nation and its assets from aerial threats like drones and missiles by combining advanced surveillance, cyber protection, and layered physical defenses.

Defence Production in India FY 2024–25

- India's annual defence production touched a **record ₹1.51 lakh crore in FY 2024-25**, marking an **18% growth over the previous year** and a **90% jump since FY 2019-20**, reflecting a stronger domestic defence industrial base.

- Defence production includes production by Defence Public Sector Undertakings (DPSUs), Ordnance factories, other PSUs, and private sector companies.

Key Highlights

- ☞ Sectoral Share includes DPSUs/PSUs: 77%; Private sector: 23% (up from 21% last year).

- ☞ Policy Drivers includes the **Indigenisation push under Aatmanirbhar Bharat**, ease of doing business reforms, higher private participation.

- ☞ **Export Growth** shows an increase of ₹23,622 crore in FY 2024-25, up 12% from previous year.

Miscellaneous

India Electric Mobility Index (IEMI)

- The India Electric Mobility Index (IEMI) 2024 was launched by **NITI Aayog**, to assess and guide states on their **electric vehicle (EV) transition**.

- The index **scores each state on a scale of 0 to 100** based on **16 key indicators**, categorized into **three themes**: transport electrification progress, charging infrastructure readiness, and EV research and innovation.

- The index categorizes states and Union Territories into **three performance groups**— **Frontrunners** (scoring 65-99), **Performers** (50-64), and **Aspirants** (0-49)

- No State has scored 100 to claim 'Achiever' status.

- **Delhi** (score 77), **Maharashtra** (68), and **Chandigarh** (65) have been respectively ranked one, two, and three and listed as the only three 'Front-runners' on the list.

- They are followed by the 'Performers', Karnataka (64), Tamil Nadu (59) and Haryana (54).

- All remaining States and UTs have 'Aspirant' status.

- **Findings** state that national EV penetration has risen from 0.5% in 2018 to 7.7% in 2024, and over 25,000 public charging stations installed nationwide.

MERITE Scheme

- The Union Cabinet approved the **MERITE Scheme** to strengthen technical education in **275 government and aided institutions** including engineering colleges, polytechnics, and technical universities.

- Implemented as a **Central Sector Scheme** (2025–30) with an outlay of **₹4,200 crore** (₹2,100 crore as a World Bank loan), it aims to improve quality assurance, governance, accreditation, and industry-aligned curricula.

- Key interventions include **internships, faculty development, research hubs, incubation centers, skill labs, and language workshops**, enhancing graduate employability, placements, and reducing unemployment

Adi Karmayogi initiative

- **Adi Karmayogi initiative** is a **Tribal Affairs Ministry** programme that aims to create **20 lakh change leaders** in tribal villages to improve last-mile delivery of welfare schemes.

- Launched in 2025 under the **Dharti Aba Janjatiya Gram Utkarsh Abhiyaan,** promotes self-driven solutions and helps residents prepare "**Village Vision 2030**" documents, to be used as blueprints for state action.

- It also establishes **one lakh Adi Sewa Kendras** as single-point centers to ensure 100% saturation of welfare schemes

Definitive list of Ayurveda Aahara Products

- The FSSAI, in collaboration with the **Ministry of Ayush**, has released a definitive list of **Ayurveda Aahara products** to standardize traditional Ayurvedic food formulations under modern food safety norms.

- Based on recipes and processes from classical Ayurvedic texts listed in Schedule A of the **Food Safety and Standards (Ayurveda Aahara) Regulations, 2021.**

- This ensures authenticity and adherence to traditional formulations.

- **Ayurveda Aahara** refers to foods aligned with Ayurvedic dietary principles, emphasising balance, seasonal suitability, and natural ingredients with therapeutic benefits.

Places in News

The Sundarbans Tiger Reserve (STR)
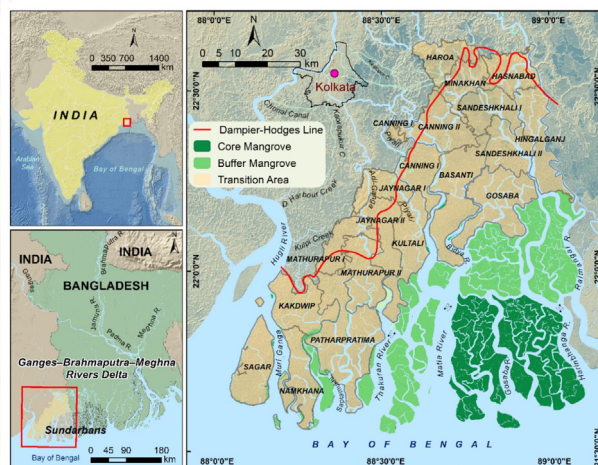
- The Sundarbans Tiger Reserve (STR) in **West Bengal has become India's second-largest tiger reserve** after the National Board for Wildlife approved an expansion of 1,044.68 sq km.

- This moves STR from seventh to second among India's 58 tiger reserves, just behind **Andhra Pradesh's Nagarjunasagar-Srisailam Tiger Reserve**.

- "Sundarban" means "beautiful forest", named after the mangrove tree Sundari (Heritiera fomes).

- It is the world's **only mangrove tiger habitat,** home to endangered species like tigers, fishing cats, estuarine crocodiles, Gangetic and Irrawaddy dolphins, king cobras, and water monitor lizards.

- Located in the **southernmost Ganges-Brahmaputra delta** bordering the Bay of Bengal, it lies between 21º51'–22º31'N and 88º10'–89º51'E, separated from West Bengal by the Dampier-Hodges line and from Bangladesh by the Kalindi, Raimangal, and Harinbhanga rivers

Mithi River

- Mumbai recently witnessed 300 mm of rainfall in 24 hours, causing severe waterlogging in the Mithi River.

- It is formed by the overflow of **Vihar Lake** and **Powai Lake**. and flows for approximately 17.84 kilometers before meeting the Arabian Sea at **Mahim Creek** creating a critical **mangrove ecosystem**

- It flows through some of Mumbai's most densely populated areas, including Kurla, Dharavi, and Bandra-Kurla Complex (BKC).

- The river is **heavily polluted** due to the discharge of untreated domestic and industrial waste, making it an open sewer. This has led to the loss of its original biodiversity.

Dardanelles Strait

- **Turkey** recently **suspended all shipping traffic through the Dardanelles Strait** due to extensive forest fires.

- Dardanelles is a **narrow strait in northwestern Turkey**, 61 km long and 1.2 to 6.5 km wide, **linking the Aegean Sea with the Sea of Marmara.**

- The surface current is **freshwater** and flows from the Sea of Marmara toward the Aegean Sea.

- **The underwater current is salt water** and flows in the opposite direction.

- Together with the Bosporus Strait, it serves as a vital route for commercial shipping between Europe and Asia.

- Historically known as **Hellespont**, it has also been connected to significant ancient events, such as the **Trojan War,** and has witnessed the crossings of notable figures like Xerxes I and Alexander the Great
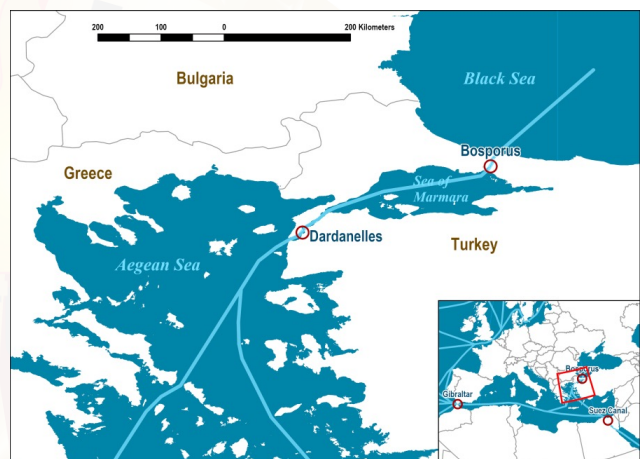
Kalai–II Hydroelectric Project

- **The Arunachal Pradesh State Pollution Control Board** recently conducted a public hearing for environmental clearance for the proposed **1200 MW Kalai-II hydroelectric project.**

- Located on the **Lohit River, a major tributary of the Brahmaputra**, the project is situated in the Anjaw district of Arunachal Pradesh.

- It uses **run-of-the-river technology,** which minimizes environmental impact by avoiding the creation of large reservoirs.

Lipulekh Pass & Shipki La

- India recently rejected **Nepal's objection to resumption of India-China border trade** through the Lipulekh Pass in Uttarakhand.

  - China has agreed in principle to the proposal of **resuming trade through Shipki-La in Kinnaur district of Himachal Pradesh.**

- It is located near the **India-China (Tibet)-Nepal tri-junction** in Uttarakhand's Pithoragarh district, and is a crucial pass in the **Kumaun region's Kali Valley.**

- It offers a shorter travel route for the **Kailash Mansarovar Pilgrimage**, saving considerable travel time.

- **Shipki La** is situated at an elevation of 3,930 metres above sea level, and the pass has been part of **documented trade since the 15th century**, although oral histories suggest its legacy extends even further back.

- Through this pass the **Sutlej River (known as Langqen Zangbo in Tibet)** enters India.

- The old name of **Shipki La was Pema La, or Shared Gate**, also known as Shared Pass.

- It was declared the **Line of Actual Control post-1962,** and later, the **Indo-Tibetan Border Police named it Shipki La.**

Krasheninnikov Volcano

- **The Krasheninnikov Volcano in far eastern Russia** has recently erupted for the first time in more than 600 years.

- **Krasheninnikov** is a special type of volcano on the **Kamchatka Peninsula in Russia**.

- **It's not just one volcano, but two volcano cones that grew inside a giant crater** left by an even older, massive volcano.

  - It is located in the **Kronotsky Nature Reserve**, a protected area known for its beautiful landscapes.

- **The Kamchatka Peninsula is remote but lies in the "Pacific Ring of Fire"** - so called because of the high number of earthquakes and volcanoes that occur here.

Anchorage, Alaska

- The 2025 Russia - United States Summit was held at **Joint Base Elmendorf–Richardson in Anchorage, Alaska.**

- Anchorage is **Alaska's largest city** and geographically, it lies at the base of the **Chugach Mountains** and serves as a port at the head of **Cook Inlet**, connecting to the Pacific Ocean.

- Historically, Alaska was part of **Tsarist Russia** (Russian Empire) till the United States bought Alaska for $7.2 million in a deal known as the **Alaska Purchase in 1867**.

- Many Americans criticized the purchase as a waste of money due to the remote, icy landscape, mocking the deal as **"Seward's Folly"** after then-Secretary of State William H. Seward.

- Decades later, **Alaska would officially become the 49th state** on January 3, 1959, with Hawaii following as the 50th state on August 21, 1959

Bering Strait

- A study found that vessel movements in the Bering Strait are **generally following** the **designated routes and safety rules set up in 2018** by the U.S. and Russia through the International Maritime Organization (IMO)..

- The Bering Strait is a narrow (85 km), shallow (50 m) strait (narrow waterway that connects two larger bodies of water) between **Russia's Cape Dezhnev and Alaska's Cape Prince of Wales** that links the Bering Sea to the Chukchi Sea in the Arctic Ocean.

- It includes key islands like the **Diomede Islands**—Big Diomede (Russia) and Little Diomede (USA)—divided by the International Date Line, and the St. Lawrence Islands.

Species in News

Asian Giant Tortoise

- Recently 10 Asian giant tortoises were reintroduced into the Zeliang Community Reserve, Nagaland.

- Giant Asian Tortoise, **Manouria emys** (Family Testudinidae), is the **largest tortoise species in mainland Asia**, known as the "**small elephant of the forest**" for its ecological role.

- They are **mainly found in tropical and subtropical forests of India**, Bangladesh, Myanmar, Thailand, Malaysia, and Indonesia and can **live up to 80–100 years**.

- In India, they are mainly found in Northeast regions, especially **Nagaland and Arunachal Pradesh** and are **herbivorous in diet**, feeding on leaves, fruits, mushrooms, and decomposing plant matter and can grow up to 60 cm in length and **weigh over 35 kg**.

- They **act as a keystone species** by dispersing seeds, aiding soil turnover, and maintaining forest regeneration.

- IUCN status: **Critically Endangered**.

- CITES : **Appendix II**

Saltwater crocodile

- The 2024-25 population assessment on saltwater crocodiles (Crocodylus porosus) in the Sundarbans, showed a modest increase in their population.

- It is the **largest and heaviest of all living reptiles in the world**, also known by the name **estuarine crocodile**, **Indo-Pacific crocodile**, **marine crocodile**, **sea crocodile**, or informally as saltie.

- It is an **opportunistic hypercarnivorous apex predator**, native to saltwater habitats and brackish wetlands from **India's east coast** across **Southeast Asia** and the **Sundaic region to northern Australia and Micronesia**.

- The average male is 5 m in length and weighs around 500 kg, while females are significantly smaller, with the average female saltwater crocodile measuring a little under 3 m in length and weighing less than 100 kg.

- They are **solitary and highly territorial** in nature, with large male saltwater crocodiles often controlling extensive stretches of rivers, estuaries, or coastlines.

- IUCN status : **Least concern (LC)**

Barbados threadsnake

- Recently, the **world's smallest known snake** Barbados threadsnake was rediscovered on the Caribbean island after vanishing for decades.

- It is a tiny snake that fits into a coin, belonging to the **family Leptotyphlopidae** and are **nocturnal in nature**.

- It has very reduced vision, feeds on termites and ants, and **lays a single slender egg**, making it unusual among snakes.

- It reaches a maximum adult length of only 10.4 cm (4.1 inches) and an average weight of 0.6 g (0.02 ounce).

- Its **habitat is most likely limited to the forests of eastern Barbados**, Caribbean island and usually **inhabit tropical dry forests**.

- IUCN Status: **Critically Endangered**

Darwin's Frog

- Chile has launched efforts to save the **endangered Darwin's frog (Rhinoderma darwinii)**, a tiny, leaf-like amphibian native to Chile and Argentina.

- Males carry tadpoles in mouth pouches, and when threatened, the frog plays dead.

- The species includes the endangered **southern Darwin's frog** and the virtually vanished **northern Darwin's frog (R. rufum, critically endangered)**.

- The **diet** of R. darwinii's consists of detritivore, herbivore, and carnivore invertebrates.

- Darwin's frog has an **unusual method of brooding**, in which the male will facilitate development of its tadpoles inside its vocal sac.

- Discovered by **Charles Darwin in 1834**, the frog faces threats from forest fires, climate change, invasive species, and urbanization.

Alpine Musk Deer

ENDANGERED
EN

- A recent report by Central Zoo Authority reveals a **mix-up in identifying the Alpine musk** deer for conservation breeding, mistakenly initiating programs for the **Himalayan musk deer**

- The **Alpine musk deer (Moschus chrysogaster)** is a musk deer species found only in Asia.

- It is **not a true deer** (do not grow antlers), but rather its family is closely related to Bovidae, the group that contains antelopes, bovines, sheep, and goats.

- Musk is a **strong-smelling secretion** produced by the musk gland of male musk deer.

- It is generally **solitary** and a crepuscular animal and it is named for having an externally visible musk sac between the male testes.

- It inhabits **coniferous and deciduous forests** in the mountain regions at elevations of 3,000–5,000 m and mainly found in India, Nepal, Bhutan and China.

- It is a ruminant herbivore, foremost a browser and feeds mainly on forbs, grasses, moss, lichens, and shoots, leaves and twigs of shrubs.

- IUCN Status: **Endangered**

Nilgiri Tahr

ENDANGERED
EN

- Recently, a joint census in Kerala and Tamil Nadu has reported a population of 2,668 Nilgiri tahrs.

- Nilgiri Tahr also known as **Varayaadu or Nilgiri Ibex**, is a **caprine ungulate endemic to the Western Ghats** , specifically in **Tamil Nadu (where it is the state animal) and Kerala**.

- It **inhabits montane grasslands and shola forests at 1,200–2,600 m elevation**, thriving on grassy slopes and rocky cliffs of the Western Ghats.

- The **Eravikulam National Park (ENP) in Kerala hosts the largest population** with smaller populations in the Palani Hills, Srivilliputtur, Meghamalai, and Agasthiyar Ranges.

- They are **diurnal species** and show **sexual dimorphism** with mature male found to be larger and darker in colour.

- Habitat loss, livestock competition, poaching, and local extinction are the major threats.

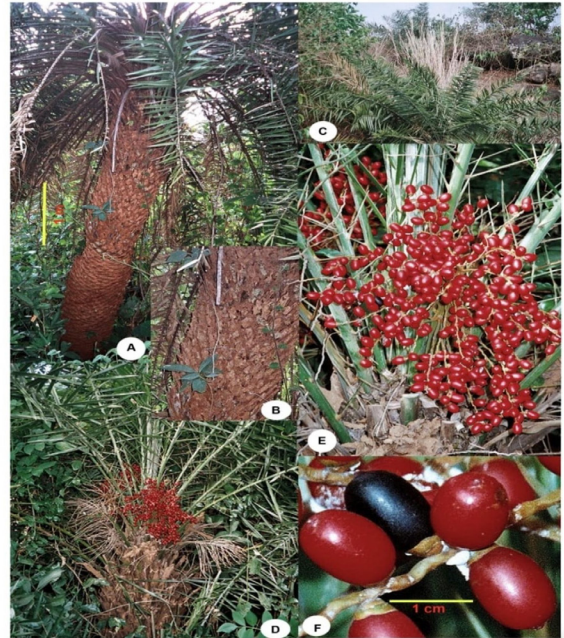- IUCN Status: **Endangered**.

Indian Phoenix Palms

FIGURE 2. *Phoenix sylvestris* (L.) Roxb. A. Habit, B. Closeup of main trunk, C.Leaves, D. Fruiting tree, E. Infructescence, F.Fruits.

- Recently, researchers have identified a new palm species and named it as Phoenix roxburghii.

- It is a **new palm species** named after William Roxburgh,who was considered as the father of Indian Botany.

- They are **mainly found on India's eastern coast and Bangladesh, Gujarat, Rajasthan and Pakistan** and can **grow 12 to 16 metres tall**.

- **About Palm Tree:**

- Palm is a member of the Arecaceae, or Palmae, a single family of monocotyledonous flowering plants of the order Arecales.

- It is an **evergreen plant** which can grow in the form of shrubs, trees, or long, woody vines called lianas.

- It is distributed in **America** and in Asia, from **India to Japan** and **south to Australia and the islands of the Pacific and Indian oceans**, **with Africa and Madagascar** as a third but much less important palm region.

Mouse Deer

- Recently, **Silver-backed Chevrotain** (mouse deer) thought extinct for over 30 years, has been rediscovered in the forests of southern Vietnam

- The mouse deer, also called chevrotain, is the **world's smallest hoofed mammal**, belonging to the **family Tragulidae**.

- Though it resembles both a mouse and a deer, it is unrelated to either and represents a primitive ruminant lineage

- They are **herbivorous and are even-toed ungulates** (meaning weight is distributed equally on two of the five toes)

- There are **about 7 recognized species** of mouse deer including the **Indian spotted chevrotain** (**Moschiola indica**) found in India and Nepal.

- **Silver-backed Chevrotain** are **mainly found in tropical and subtropical forests of South and Southeast Asia** (India, Vietnam, Thailand, Sri Lanka) and known for their notoriously elusive character.

- They **lack modern thermoregulation mechanisms** and are **known for their ability to submerge underwater for minutes** to evade predators.

- **IUCN status**: Data deficient

Sunflower Sea Stars

- Recently, scientists have identified **Vibrio pectenicida,** a bacterium causing sea star wasting disease (SSWD), which led to the loss of over 5.8 billion sunflower sea stars across North America since 2013.

- Sunflower Sea Stars (**Pycnopodia helianthoides**) **are large, fast-moving marine predators with up to 24 arms**; **vital in regulating underwater ecosystems by preying on sea urchins**.

- They are native to the Pacific Ocean, ranging from Alaska to Baja California, dwelling on kelp beds and rocky seabeds.

- They are **carnivores** that feed on both living and dead prey with a diet consisting of opalescent squid, clams, spiny dogfish, herring, sea urchins etc.

- Also they exhibit **vibrant hues**- orange, purple, red, or brown, aiding in camouflage and predator avoidance.

Keywords

1. **Operation Muskaan-XI:** Conducted by **Telangana** government aimed at tracing missing **children** and rescuing minors from **various forms of exploitation,** including begging, child labour, trafficking, and bonded labour. Telangana police used facial recognition software 'Darpan' to identify the missing and unidentified children. Operation Muskaan is **primarily an initiative of the Ministry of Home Affairs (MHA), Government of India**, under the **Integrated Child Protection Scheme (ICPS)**.

2. **Apna Ghar Initiative:** Launched by the **Ministry of Petroleum and Natural Gas,** it provides safe and hygienic resting facilities for truck drivers on national and state highways. These facilities, which include dormitories, restaurants, toilets, and clean drinking water, are **established by Public Sector Oil Marketing Companies** at fuel stations and are accessible through a dedicated mobile app for drivers.

3. **Fully Digitally Literate State:** Recently **Kerala** achieved a landmark in India's digital journey by becoming the first fully digitally literate State. Out of 21.88 lakh identified digitally illiterate individuals, 21.87 lakh successfully completed training, getting Kerala this top status.

4. **Mahout Village:** Tamil Nadu has established a **second dedicated 'Mahout Village'** at Kozhikamuthi elephant camp in the **Anamalai Tiger Reserve (ATR)** which aims to improve living conditions for mahouts and cavadies who care for captive elephants, strengthening the bond between caretakers and elephants.

5. **Shadow Schooling:** A recent government survey shows that nearly one in three students now attend private coaching or tuition **beyond regular school hours** and it is known as shadow schooling.

6. **Rudrastra:** Indian Railways has successfully conducted the trial run of 'Rudrastra', **Asia's Longest Freight Train,** measuring 4.5 km created by coupling six standard-length rakes, resulting in a single train with 354 wagons.

7. **Necropolitics:** It is a concept that describes **how political power determines who lives and who dies**, often by exposing certain populations to death or allowing them to live in a state of suspended vitality. The concept of Necropolitics gained renewed global attention after civilians were killed while seeking food aid in Gaza

8. **Baaj Akh Anti-Drone System:** The **Punjab** government has launched the Baaj Akh Anti-Drone System (ADS), the **first of its kind in an Indian state**, to counter **drug and weapon smuggling** from Pakistan. The system, meaning "Hawk Eye," is deployed from Pathankot to Fazilka and provides a second line of defense by automatically detecting drones and alerting authorities.

9. **Bloom Syndrome:** It is a rare genetic disorder caused by mutations in the **BLM gene**, which is responsible for maintaining DNA stability that causes a **short stature, a sun-sensitive rash, and a predisposition to cancer.** Recently, in Chennai a 12-year-old girl with Bloom Syndrome underwent bone marrow transplant (BMT) using stem cells from her younger brother.

10. **PM Ekta Malls:** Also called **Unity Malls**, were announced in the **Union Budget 2023-24** as state-level malls promoting ODOP products (One District, One Product), Geographical Indication (GI) products, and other handicrafts from across the country, with dedicated space for each State and Union Territory. The **Department of Expenditure** under the **Ministry of Finance** approves state requests for PM Ekta Malls, based on recommendations from the **Ministry of Commerce and Industry**.