FORTUNE
Prelims Precise

June 2025
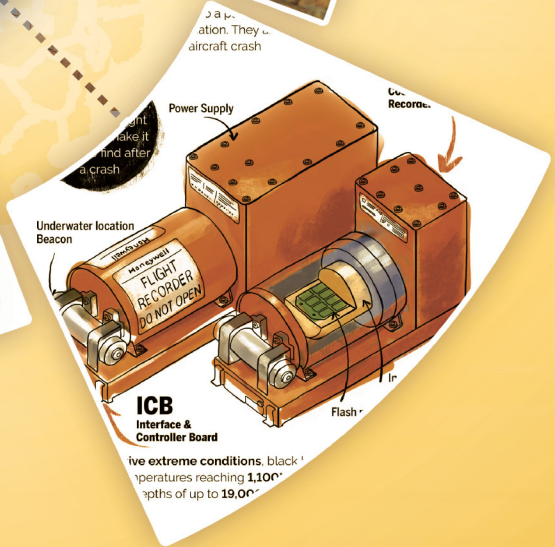
FORTUNE IAS
Toppers in Top 100

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**.

INDEX

Polity & Governance

India's First Mobile e-Voting System

- Bihar became the first Indian state, and only the **second region after Estonia**, to use mobile-based e-voting in local elections.

- Only **pre-registered voters** who faced difficulty reaching polling booths were allowed to vote using the **Android-only E-SECBHR app** or the state election website.

  - ☞ The E-SECBHR app stands for **"e-Voting SECBHR"**, where "SEC" refers to the State Election Commission and "BHR" refers to Bihar.

- Voter ID and facial recognition ensured identity verification, and **blockchain technology** secured the votes. Each mobile number could be used by two registered voters.

- A Dry run of India's first smartphone-based e-voting was conducted in **Telangana** district in 2021.

Registered Unrecognised Political Parties (RUPPs)

- The Election Commission of India (ECI) has initiated the process to **delist 345 Registered Unrecognised Political Parties (RUPPs).**

- The reason being that they have **not contested any election since 2019 a**nd have **no traceable offices.**

- Political parties in India are registered under **Section 29A of the Representation of the People Act, 1951.**

- By registering under Section 29A as a political party, they get **certain benefits** like income tax exemptions, access to electoral rolls, common symbols (for recognised parties), star campaigners and airtime on state media during elections.

- However, they also have to **meet certain criteria,**

  - ☞ Have a memorandum or constitution that **aligns with the Indian constitution** and its **principles of socialism, secularism, integrity** etc,

- ☞ Give proper **donation details** (above Rs.20,000) to ECI for verification.

- ☞ Can receive **donations above ₹2,000** only via cheque, draft, bank transfer.

- While the ECI **cannot deregister political parties**, it can delist inactive RUPPs and recommend withdrawal of benefits like tax exemptions and election-related privileges.

In the **Indian National Congress versus Institute of Social Welfare & Ors (2002)** case Supreme Court (SC) affirmed that the ECI lacks the authority to de-register political parties, except under extraordinary circumstances such as fraudulent registration or cessation of allegiance to the Constitution

Total Revolution

- The 51st anniversary of **Jayaprakash Narayan's "Total Revolution"** was observed, marking its lasting impact on Indian politics.

- On **June 5, 1974**, JP launched the movement from **Gandhi Maidan, Patna**, against the then **Congress regime's corruption, price rise, and misgovernance**, eventually demanding **Indira Gandhi's resignation**.

- This led to the imposition of the **Emergency** on **June 25, 1975** by the Indira Gandhi government under Article 352 citing internal disturbance.

- JP's **"Total Revolution" (Sampoorna Kranti)** called for deep, moral and non-violent transformation at both personal and societal levels.

- It emphasized **decentralisation of power** and included seven adaptable components: **social, economic, political, cultural, ideological, intellectual, educational**, and **spiritual**.

Estimates Committee of Lok Sabha

- Lok Sabha Speaker Om Birla inaugurated the **75th Anniversary of the Estimates Committee** in Mumbai.

- Formed in **1950**, the Estimates Committee is **exclusive to the Lok Sabha** and consists of **30 members**, elected **annually** by proportional representation using the **single transferable vote**.

- The **Speaker appoints the Chairperson**.

- **Ministers cannot be members**, and if a member is appointed as a minister, they **cease to be on the committee**.

- The **term is one year**, and members **can be re-elected**.

- The committee suggests **economies, administrative reforms, and alternative policies** to improve efficiency, ensures money is spent as per policy, and recommends the format of estimates.

- It **does not examine Public Sector Undertakings**, which are handled by a separate committee.

The 16th Census of India

- The 16th Census of India will be conducted in 2027, as **notified by the Ministry of Home Affairs (MHA) under Section 3 of the Census Act, 1948.**

- The **Registrar General and Census Commissioner of India (RG & CC)**, established in 1961 under the MHA, is responsible for conducting the Census.

- Census is a **Union List subject (Entry 69, Article 246, Seventh Schedule).**

- The 2027 Census will, for the first time, include **caste enumeration** and use a **digital data** collection system via a mobile app.

- It will follow the traditional **two-phase format**: Houselisting and Housing Census, and Population Enumeration.

- The census enumeration will end by February 28, 2027 and the census will have a **reference date** of March 1, 2027, with the exception of certain snow-bound and challenging regions.

- Specifically, the Union Territory of Ladakh, **snow-bound areas** of Jammu and Kashmir, Himachal Pradesh, and Uttarakhand will have a reference date of October 1, 2026.

Lokpal of India

नागरिक सशक्तिकरण, प्रष्टाचार उजागरीकरण
Empower Citizens, Expose Corruption

- The **Lokpal of India** has adopted a new motto: **"Empower Citizens, Expose Corruption,"** replacing the earlier Sanskrit phrase **"Ma Gridhah Kasyasvidhanam"** ("Do not be greedy for anyone's wealth").

- Established under the **Lokpal and Lokayuktas Act, 2013**, the Lokpal is India's first anti-corruption ombudsman.

- The Lokpal comprises a **Chairperson and eight Members** (including **four Judicial Members**).

- They are **appointed by the President** for **five years or until the age of 70**, whichever is earlier.

- The **Chairperson's salary** equals that of the **Chief Justice of India**, and **Members' salaries** match those of **Supreme Court Judges**.

- Its **jurisdiction** includes the **Prime Minister (with conditions)**, Union Ministers, MPs, and central government officials (Groups A to D).

- It also covers heads and officials of **government-funded or established bodies**, and **NGOs receiving foreign funds over ₹10 lakh or over ₹1 crore in government funds.**.

- Anyone can file a complaint under the **Lokpal Act**, provided it pertains to offences under the **Prevention of Corruption Act, 1988**, using the prescribed format.

Bar Council of India

- Chief Justice of India Bhushan R. Gavai welcomed the Bar Council of India's (BCI) **decision to allow foreign lawyers and law firms to practise foreign law in India**.

- They can now **work on non-litigious matters**—legal work outside the courtroom—such as advisory services, contract drafting, international arbitration, and cross-border transactions, but cannot appear in Indian courts.

- Earlier, foreign lawyers were barred unless they met **strict rules under the Advocates Act, 1961**.

- The BCI, a **statutory body** set up under this Act, oversees the State Bar Councils (SBCs), regulates legal education and the profession in India.

- Law graduates must **register with a State Bar Council** and pass the **All India Bar Examination (AIBE)** conducted by the BCI to get a **Certificate of Practice**.

- Once certified, advocates can **practise in any court or tribunal across India**, regardless of the state where they registered.

- However, to **practise in the Supreme Court**, they must clear a separate **Advocate-on-Record (AoR) exam**.

DHRUVA Initiative and DIGIPIN

- The **Department of Posts** has launched DHRUVA (Digital Hub for Reference and Unique Virtual Address), a national-level **Digital Address Digital Public Infrastructure (DPI) initiative.**

- It introduces **Address-as-a-Service (AaaS)**, enabling secure, consent-based address sharing across platforms. DHRUVA has two layers:

  1. **DIGIPIN Layer** – A 10-digit alphanumeric, geo-coded address grid (approx. 4x4 meters) developed with IIT-Hyderabad and ISRO's NRSC.

  2. **Digital Address Layer** – A user-friendly system allowing generation of unique, UPI-like address labels (e.g. username@domain), eliminating the need to rewrite full addresses for services.

mint

ALL ABOUT DIGIPIN

What is DIGIPIN?
A 10-digit digital address code pinpointing exact locations in India, developed with IIT Hyderabad and ISRO

How it works:
India is divided into 4m x 4m grids, each assigned a unique alphanumeric DIGIPIN based on latitude and longitude

Finding your DIGIPIN:
Visit 'Know Your DIGIPIN' portal, use a GNSS-enabled device to get your location, and generate your code

Difference from PIN code:
PIN codes cover large areas; DIGIPIN gives precise location at a 4m x 4m grid level

Economy

India's Retail Inflation Trends

- The **Consumer Price Index (CPI) based retail inflation**, which the Reserve Bank of India (RBI) monitors for its policy action, **declined to 2.82% in May (year-over-year) from 3.16%** in the previous month.

- The data released by the **National Statistical Office (NSO), the Ministry of Statistics and Programme Implementation (MoSPI)**.

- **CPI** is a metric that measures the **change in the price level of goods consumed** by retail consumers, who are on the demand side of the economy.

- **Core inflation** — which excludes items whose prices are volatile such as food and fuel and is seen as an indicator of underlying demand conditions — inched up to around **4.2% in May.**

- **Imported inflation** rose to 6.3% in May driven by the jump in the prices of oils and fats.

- The decline in inflation was sharper in urban areas and rural inflation in May stood at 2.6%, which is 48 basis points lower than the urban inflation.

INDIA'S RETAIL INFLATION FALLS SHARPLY IN APRIL 2025

RETAIL INFLATION	FOOD INFLATION
3,16%	**1,78%**

- Lowest inflation rate since July 2019
- Decline driven by lower prices for vegetables, pulses, fruits, cereals
- Economists expect rate cuts from RBI

CONSUMER PRICE INDEX
(YEAR-OVER-YEAR % CHANGE)
4.83% ... 3.16%
Apr '24 Jul '24 Oct '24 Jan '25 April

The State of World Population Report 2025

- The **United Nations Population Fund (UNFPA)**'s 2025 State of World Population (SOWP) Report, titled, **'The Real Fertility Crisis'** was recently released.
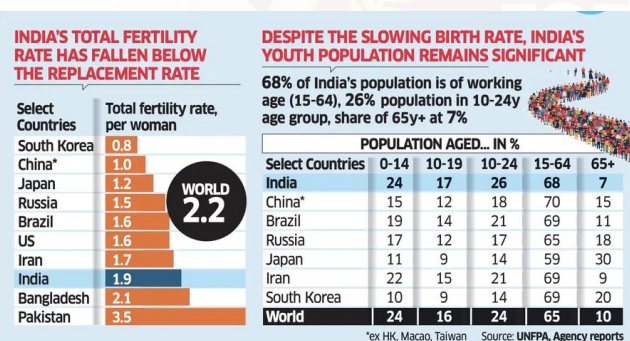
Key Findings:

- **Financial barriers** (job insecurity, housing, childcare) prevent 4 in 10 people from starting families.

- **India's adolescent fertility rate** is **14.1 per 1,000 women (15–19)**, higher than China, Sri Lanka, and Thailand.

- **Fertility is below replacement level (2.1)** in 31 States/UTs but remains high in Bihar (3.0), Meghalaya (2.9), and UP (2.7).

- **36% of Indians** faced **unintended pregnancies**; **30%** couldn't fulfill the desire for children; **23%** faced both.

About UNFPA:

Founded in **1969** as the United Nations Fund for Population Activities, renamed in **1987**, the **United Nations Population Fund (UNFPA)** is based in **New York**.

It works to ensure **sexual and reproductive health rights**, especially for **women and youth**.

India's Economic Growth 2025

- The Indian economy grew 6.5% in fiscal year 2024-25 and 7.4% in the quarter ending March, according to **data released by the National Statistical Office (NSO).**

- The International Monetary Fund (IMF) also projects that India will overtake Japan in economic size by the end of the year, **reaching $4.18 trillion.**

Key Findings:

- **The gross value added (GVA):** grew 6.8% in the first three months of 2025, compared to a revised expansion of 6.5% in the previous quarter.

- ☞ GVA strips out indirect taxes and government subsidy payouts, which tend to be volatile.

- **Private consumption:** rose by 7.2% year-on-year, up from 5.6% in the previous fiscal.

- **Agriculture** grew **4.6%** (vs. 2.7% last year).

- **Construction** grew **9.4%** (vs. 10.4%).

- **Manufacturing** slowed to **4.5%** (from 12.3%).
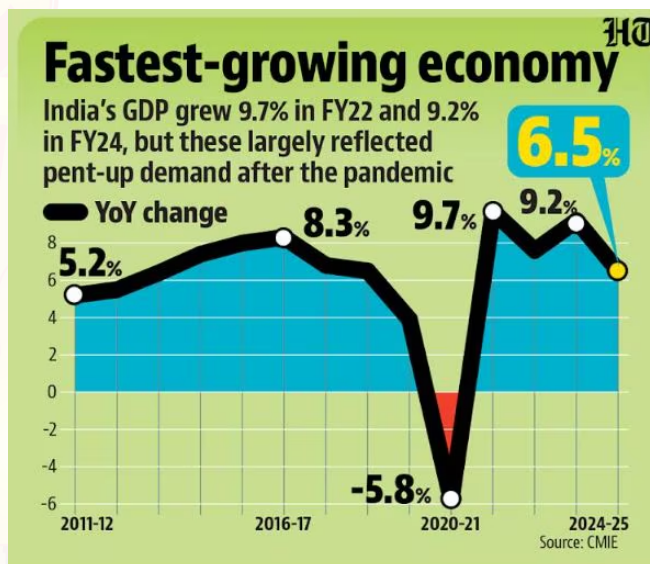
SEZ regulations

- **The Ministry of Commerce and Industry** has recently amended rules for Special Economic Zones (SEZs) focused on **semiconductor and electronic component manufacturing.**

- In India, a Special Economic Zone (SEZ) is a **duty-free area** treated as a **foreign territory** for trade, **offering tax incentives** to boost exports and investment.

- SEZ is governed by the **Special Economic Zones Act, 2005** and 2006 Rules.

Amendmentts to SEZ Rules, 2006:

- **Rule 5**: For SEZs focused on semiconductors or electronic components, the minimum land requirement has been reduced from **50 hectares to 10 hectares -** Makes it easier for smaller investors to enter the sector.

- **Rule 18**: SEZ units in these sectors can now **sell within India** (domestically) after **paying applicable duties**, not just export goods - Increases domestic availability of critical components and reduces import dependency.

- **Rule 7**: The Board of Approval can now allow SEZ land to be **mortgaged or leased** to government agencies, even if it's not fully free of legal claims (encumbrances) - Eases land acquisition hurdles and enables quicker setup of SEZs without legal bottlenecks.

- **Rule 53:** The amendment will allow the value of goods received and supplied on a free-of-cost basis to be included in Net Foreign Exchange (NFE) calculations and assessed using applicable customs valuation rules.

World Bank & Poverty Line

- The **World Bank** has revised the **International Poverty Line (IPL),** a global benchmark used to define and track extreme poverty, from **$2.15/ day (2017 PPP)** to **$3.00/day (2021 PPP)**.

- This was part of reflecting updated **Purchasing Power Parity (PPP)** prices between nations.

- The update has led to an increase of **125 million more people globally** being classified as extremely poor.

- Despite the change, **India** has seen a **sharp decline in extreme poverty**—from **27.1% in 2011-12** to **5.3% in 2022-23**.

- The number of Indians living on less than $3/day in 2024 stood at **54.7 million**, and **171 million people** were lifted out of extreme poverty over the past decade.

  - **Rural poverty** fell from **18.4% to 2.8%** and **urban poverty** from **10.7% to 1.1%**.

  - The **rural-urban gap** narrowed from **7.7 to 1.7 percentage points**.

  - **Five most populous states** account for **54% of India's extremely poor**.

  - Schemes like **free food transfers** played a key role in poverty reduction.

Extreme Poverty: % people living on less than $3.0 a day (2021 PPP)
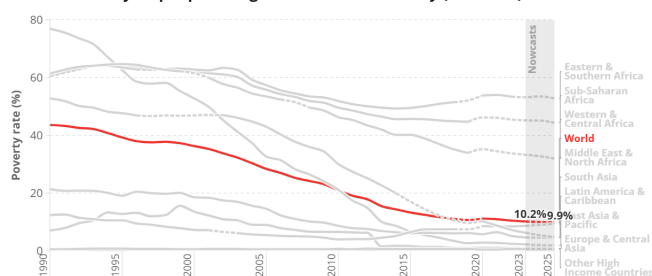
The **International Comparison Program (ICP)** is a global initiative led by the **World Bank** under the **UN Statistical Commission**. It collects pricet data from over **180 countries** to calculate **Purchasing Power Parities (PPPs)**, which adjust currencies for price differences and allow comparison of poverty, GDP, and living standards. Since **2017**, it is held **every 3 years** and is one of the world's largest statistical efforts.

Urban Consumer Confidence Survey for 2025

- The Reserve Bank released the results of the May 2025 round of its bi-monthly **urban consumer confidence survey (UCCS).**

  - The RBI has renamed its erstwhile **Consumer Confidence Survey** as Urban Consumer Confidence Survey from May 2025 onwards, while the **Rural Consumer Confidence Survey was released for the first time in April 2025.**

- The survey collects **current perceptions (Current Situation Index (CSI))** and **one year ahead expectations (Future Expectations Index (FEI))** of households on general economic situation, employment scenario, overall price situation, own income and spending across 19 major cities.

- An **index number of less than 100 is indicative of pessimism**, while a **100-plus figure suggests optimism.**

Findings

- UCCS) showed urban households' **Current Situation Index (CSI) fell slightly to 95.4,** staying below 100 for over six years, while **rural CSI dipped to 100.0**.

- However, **Future Expectations Index (FEI) rose** to 123.4 for urban and a record 126.2 for rural households, driven by good monsoon and easing food inflation

Gender Gap Index 2025

- India has ranked **131 out of 148 countries** in the World Economic Forum's **Global Gender Gap Report 2025**, slipping two places from its position last year.

- The report has an index designed to **measure gender equality** and was first published in **2006**.

Key Findings:

- **Iceland retains the world's most gender-equal economy** for the 16th consecutive year, closing 92.6% of the gender gap – the only economy to reach 90% parity.

- The **global gender gap has marginally narrowed** in 2025, from 68.4% in 2024 to 68.8% in 2025, but att current pace, gender parity is only possible in **123 years.**

- Notably, **Saudi Arabia, Mexico, Ecuador, Bangladesh, and Ethiopia** have shown to be the most effective economies in overcoming gender inequalities across each income level.

- The **bottom 10 countries** in the Index—led by Pakistan, Sudan, Chad, and Iran—continue to show the widest gender disparities globally.

Economy Profile	Score (imparity = 0, parity = 1)	Rank (out of 148 countries)	Index Edition
India	**0.644**	**131st**	**2025**

Global Gender Gap Index 2025 Edition

- India score
- average score

Economy 0.407
Politics 0.245
Education 0.971
Health 0.954

Overview

Index and Subindex	2025 Score	2025 Rank	2024 Score	2024 Rank
Global Gender Gap Index	0.644	131st	0.641	129th
Economic Participation and Opportunity	0.407	144th	0.398	142nd
Educational Attainment	0.971	110th	0.964	112th
Health and Survival	0.954	143rd	0.951	142nd
Political Empowerment	0.245	69th	0.251	65th

World Investment Report 2025

- **Global foreign direct investment (FDI) fell by 11%** to $1.5 trillion in 2024, marking the second straight year of decline, according to the latest World Investment Report.

- The Report is released by the **United Nations Conference on Trade and Development (UNCTAD) annually.**

- Europe was hit hardest, with inflows down 58% in 2024.

- **North America saw a 23% rise**, driven by a wave of semiconductor megaprojects in the United States, where FDI rose 20%.

- Asia remained the **top recipient region, despite a 3%** overall decline and a 29% drop in flows to China.

- India saw strong momentum in **greenfield investment**, even as **total inflows dipped slightly.**

- The **US remains both the top source and destination** for FDI.

Spending Cap on MGNREGS

- The **Union Finance Ministry** has capped spending under the **Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) at 60%** of its annual allocation for the first half of Financial Year (FY) 2025-26.

- The programme has been for the first time brought under the **Monthly Expenditure Plan/Quarterly Expenditure Plan (MEP/QEP)**, a spending control mechanism introduced by the Finance Ministry in 2017.

- The **Ministry of Rural Development** data shows that over the last few years, more than **70% of the budget is frequently exhausted by September**, and the supplementary allocations run out by January.

- The MGNREGS budget for FY 26 stands at Rs 86,000 crore, and FY 25 ended with pending dues of Rs 21,000 crore.

The **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)** is a **social security and employment** scheme enacted in **2005**, guaranteeing **100 days of wage employment** per year to every rural household whose adult members volunteer for unskilled manual work.

Work must be provided within **15 days** of demand, failing which **unemployment allowance** is paid.

Minimum wages paid as per state norms; **wages must be paid within 15 days**.

Work must be provided **within 5 km** of the applicant's residence, or extra wages are paid.

Emphasis on **women participation (at least 33%)** and marginalized groups.

Sustainable Development Report (SDR) 2025

- This year marks the **10th anniversary of the adoption of the Sustainable Development Goals (SDGs)** and the 10th edition of the Sustainable Development Report (SDR) which was released recently along with **the SDG Index.**

- Prepared by the **UN Sustainable Development Solutions Network's (SDSN) SDG Transformation Center**, the SDR reviews progress made each year on the SDGs since their adoption by the 193 UN member states.

- This year's edition focuses on **"Financing the SDGs by 2030 and Mid-Century"**

- The 2025 Sustainable Development Report, shows that **none of the 17 goals are on track,** with only 17% of targets progressing as planned.

- **India ranks 99th (score: 67.0),** entering the top 100 for the first time after steady improvement since 2021.

- However, it still trails neighbours like Bhutan (74th) and Nepal (85th), while China (49th) and the U.S. (44th) rank higher globally.

International Relations

Non-Proliferation Treaty

Economic Community of Central African State

- Rwanda has withdrawn from the **Economic Community of Central African States (ECCAS)** amid regional tensions, despite being next in line for its rotating chairmanship.

- **ECCAS**, founded in 1983, aims to boost **regional integration, cooperation, and peace** among its 11 member states.

- While its **Constitutive Treaty of ECCAS** was signed in **1983,** it went through many revisions until it was finally adopted in 2019.

- Its **headquarters** is located in **Libreville, Gabon**.
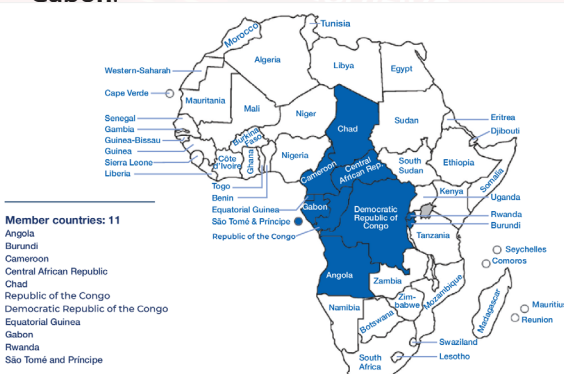
- The Iranian government said it is planning to withdraw from the **nuclear Non-Proliferation Treaty (NPT)** as it is engaged in an escalating military conflict with Israel.

- NPT, legally binding for the signatories and in force since 1970, is built on three pillars: **non-proliferation**, **disarmament**, and **peaceful use of nuclear energy**.

- The treaty allows access to nuclear technology for peaceful purposes under **IAEA safeguards**, and has **191 member states**, making it nearly universal.

- It includes a **withdrawal clause (Article 10)** requiring a 3-month notice to UNSC with justification.

- The treaty defines **a nuclear state** as one "which has manufactured and exploded a nuclear weapon or other **nuclear explosive device prior to 1 January 1967."**

  - It recognizes only five nuclear-weapon states (US, UK, France, Russia, China), while others agree not to develop nuclear arms.

- The countries that have not signed the Treaty are **India, Israel, Pakistan, and South Sudan**.

- **North Korea** was also a signatory but **withdrew** from the treaty in 2003.

The **International Atomic Energy Agency (IAEA)** was established in **1957** as an **independent international organization** to promote the peaceful use of nuclear energy and prevent its use for military purposes; it has **177 member states** (including India) and is headquartered in **Vienna, Austria**. Though **not a UN specialized agency**, it closely cooperates with the UN and plays a key role in **verifying compliance with the Nuclear Non-Proliferation Treaty (NPT)** through inspections and safeguards.

G7 Leaders' Summit 2025

- Canada, currently holding the G7 presidency for the seventh time, recently hosted the **G7 Leaders' Summit in Kananaskis, Alberta**.

- The **G7 Summit**, held annually, brings together leaders of **France, the US, the UK, Germany, Japan, Italy, Canada**, and the **EU** to coordinate on global issues.

- Originating after the **Nixon Shock (1971)** and **oil crisis (1973)**, the first summit was held in **1975 in France** with six members; **Canada joined in 1976**.

- The G7, which became the **G8 with Russia in 1998**, reverted to **G7 in 2014** after Russia's suspension due to the Crimea invasion.

- It has **no permanent HQ or treaty**, and its **leader-level decisions are non-binding**.

- India has been a **special invitee since 2003** and not a regular outreach partner of G7.

- **Note: Nixon Shock** refers to the economic actions taken by President M. Richard Nixon in 1971 that eventually led to the **collapse of the Bretton Woods system**

Rwanda and Congo Sign Peace Agreement

- **The Democratic Republic of the Congo (DRC) and Rwanda** have signed a peace deal to end years of fighting between the neighbouring countries.

    - ☛ The agreement was **mediated by the US and Qatar.**

- The origin of the fighting can be traced back to the **genocide in Rwanda in 1994**.

- About 800,000 people – mostly from the **Tutsi community** - were slaughtered by ethnic **Hutu extremists.**

- The genocide ended with the advance of a force of **Tutsi-led rebels commanded by Paul Kagame, who is now president.**

- Fearing reprisals, an estimated **one million Hutus then fled** across the border to what is now **DR Congo.**

- After 30 years of conflict, one of the Hutu groups, the **Democratic Forces for the Liberation of Rwanda (FDLR)**, and **Rwanda** backed group, **M23, led** by ethnic Tutsis, are under constant war.

- The agreement was signed not with the M23 - whose armed forces have occupied huge areas of the region - but with Rwanda, DR Congo's neighbour.

Clashes involving M23 rebel group, 2024-25*

*To Jan 24th
Source: ACLED
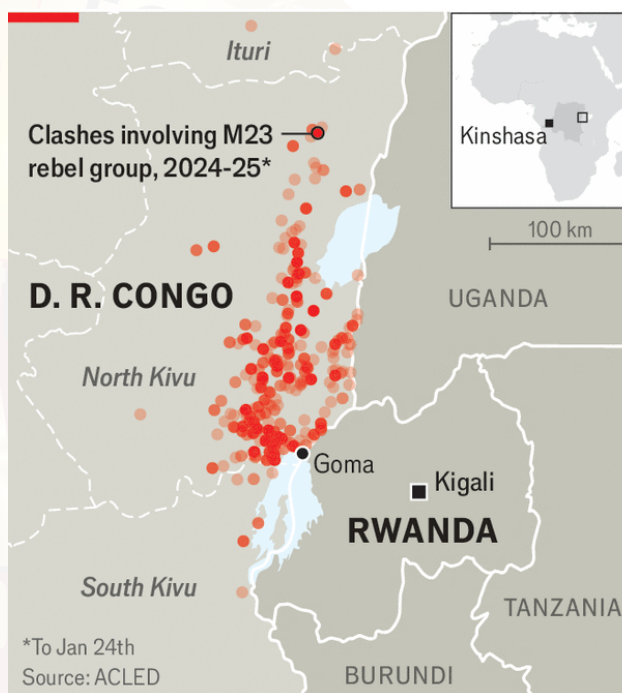
Indus Waters Treaty Court of Arbitration

- India has rejected the recent **"supplemental award"** by the Court of Arbitration (CoA) on the Kishenganga and Ratle hydroelectric projects.

- Under the **1960 Indus Waters Treaty (IWT)**, mediated by the World Bank, Pakistan controls the Indus, Chenab, and Jhelum rivers, with India allowed only non-consumptive use (e.g., run-of-river projects).

- India built **Kishanganga (Jhelum) and Ratle (Chenab) as run-of-river projects**, but Pakistan claims illegality.

- The IWT's dispute resolution involves a **three-tier system**: Permanent Indus Commission, Neutral Expert (for technical disputes), and CoA (for legal disputes).

- **India sought a Neutral Expert**, while Pakistan requested a CoA in 2016.

- The **World Bank, in 2022, controversially set up both** processes.

- The Court of Arbitration (CoA) decided on **July 6, 2023, that it had the authority to hear the case**, even though India disagreed.

- This was the **main award of competence by the court**.

- India has consistently **not recognized the CoA's legitimacy** since its inception.

- Following the April 22, 2025 Pahalgam terror attack, **India put the IWT in abeyance**, asserting its sovereign right.

- Pakistan subsequently questioned the CoA's competence given India's actions, leading to the **"supplemental award" on June 27, 2025**, which again confirmed the CoA's ongoing jurisdiction.

- India has rejected this supplemental award, reiterating its non-recognition of the CoA and stating that the IWT's abeyance means **India will not engage with the Court.**

Taliban Sanctions Committee & 1373 Counter–Terrorism Committee:

- Pakistan has been appointed as the chair of the **Taliban Sanctions Committee of the United Nations Security Council (UNSC)** in 2025 and will serve as vice-chair of the **Counter-Terrorism Committee** of the 15-nation U.N. body.

- **The Taliban Sanctions Committee** imposes an assets freeze, a travel ban and an arms embargo on individuals, groups, undertakings and entities associated with the Taliban in constituting a threat to the **peace, stability and security of Afghanistan.**

- The Committee was established on June 17, 2011, by **Security Council Resolution 1988.**

- Pakistan is **a non-permanent member of the 15-nation UN Security Council** for the 2025-26 term.

- The sanctions committees of the Council **comprise all 15 members of the Security Council and make its decisions by consensus.**

- **The UN Counter Terrorism Committee - CTC** was established by Security Council resolution 1373 after the September 11th attacks (9/11).

- It consists of all fifteen members of the Security Council and is responsible for ensuring that all States follow the resolution.

- **According to Resolution 1373, States must** deny all forms of financial support for terrorist groups, prevent the terrorists from acquiring safe havens or subsistence, create domestic laws that criminalize terrorism among others.

United Nations Economic and Social Council (ECOSOC)

- India has been elected to the Economic and Social Council (ECOSOC) of the United Nations for **the period from 2026-28.**

- The Economic and Social Council (ECOSOC) deals with **economic, social, cultural and health matters** as well as human rights and fundamental freedoms and also coordinates the **work of the UN and the specialized agencies.**

- **ECOSOC consists of 54 members**, 18 of which are elected each year by the General Assembly for a three-year term.

- ECOSOC membership is based on **geographic representation:** 14 seats are allocated to Africa, 11 to Asia, 6 to eastern Europe, 10 to Latin America and the Caribbean, and 13 to western Europe and other areas.

- Decisions are taken by **simple majority vote** and the presidency of **ECOSOC changes annually.**

UN80 Initiative

- The UN80 Initiative is a reform plan launched by U**N Secretary-General António Guterres** to modernize and streamline the United Nations as it nears its **80th anniversary in 2025.**

- It aims to address growing global challenges like conflict, inequality, displacement, and climate change, while also tackling internal issues such as budget constraints and political divisions.

- **The initiative has three key components:**

- **Improving internal efficiency** – by reducing unnecessary bureaucracy and optimizing operations to make the UN more productive and responsive.

- **Reviewing around 4,000 existing mandates** – many of which are outdated or overlapping; the goal is to eliminate duplication and better allocate resources.

- **Structural reforms** – based on the mandate review, this involves rethinking whether current organizational structures are fit for today's challenges.

History & Culture

Zyeth Atham

- Zyeth Atham (**Jyeshtha Ashtami),** a significant festival for the **Kashmiri Pandit** community, was recently celebrated.

- Observed on the eighth day of the waxing moon (**growing or increasing in size**) in the Hindu month of **Jyeshtha**, it honors **Goddess Ragnya Devi (Kheer Bhawani)**.

- Kheer Bhavani is an incarnation of Mata Durga and their Kuldevi.

- Devotees visit her temple in **Tulmulla, Ganderbal, Jammu and Kashmir,** offering **'kheer'** (rice and milk pudding), from which the temple gets its name.

- Mentioned in **Kalhana's 12th-century 'Rajatarangini',** the temple is built over a sacred spring amidst chinar trees.

- **Legend** says Ragnya Devi once was worshipped by King Ravana, but was displeased and left Lanka and settled in Tulmulla with Lord Hanuman's aid.

Piprahwa Relics

- India's Culture Ministry will display ancient Buddhist relics, discovered in 1898 at Piprahwa, Uttar Pradesh.

- In 1898, **William Claxton Peppé, an English estate manager and engineer,** during an excavation found a **stupa at Piprahwa,** just south of Lumbini believed to be the birthplace of Lord Buddha.

- It is believed that the **Buddha's own Sakya clan had built this stupa** to honour the relics of Gautama Buddha.

- The British Crown **claimed the found relics from Peppé under the 1878 Indian Treasure Trove Act.**

- Most of the gems and precious metals (nearly 1,800 pearls, rubies, topaz, sapphires, and patterned gold sheets) went to what is now the **Indian Museum in Kolkata.**

- Interestingly, **Sotheby's (an auction house in Japan)** and the family of William Claxton Peppé planned an auction of some of the items recently that they held privately.

Halley's Comet & Vijayanagara Inscription

'RARE EPIGRAPH SPOTTED IN AP'

- Phrase 'Prakasyaya mahotpata sant-yartham dattavan vibhuh' appears in inscription
- It refers to an act of donation made to avert the feared effects of "illuminating comets & meteoric shower"
- Such celestial event was believed to pose a threat to the king & his kingdom

Sanskrit copper plate dated 1456 CE found in Srisailam

- The first Indian **epigraphic reference** to Halley's Comet has been found in a 1456 CE copper plate inscription from the Vijayanagar period.

- It is preserved at the **Srisailam Mallikarjuna Swamy temple** in Andhra Pradesh.

- Written in **Sanskrit (Nagari script)**, it mentions a **comet (dhūmakētu mahōtpāta śāntyartham)**, and the associated meteor shower (Prakāśyāya mahōtpāta śāntyartham)".

- This coincides with the 1456 appearance of Halley's Comet

Keeladi Archaeological Site

- Researchers have conducted **3D facial reconstructions** of two ancient skulls from the **Keezhadi site** in Tamil Nadu's Sivaganga district, near Madurai along the **Vaigai River**.

- The excavations from 2015 prove that an urban civilisation existed in Tamil Nadu in the **Sangam age on the banks of the Vaigai river & hence called the Vaigai Valley Civilisation.**

- The Sangam age is a period of history in ancient Tamil Nadu which was believed to be from the third century BCE to the third century CE.

- Excavations by the **Archaeological Survey of India (ASI) and Tamil Nadu State Archaeology Department (TNSDA)** have pushed the Sangam age further back between **sixth century BCE and first century BCE.**

- Keeladi could also provide crucial evidence for understanding the **missing links** of the Iron Age (12th century BCE to sixth century BCE) to the Early Historic Period (sixth century BCE to fourth century BCE) and subsequent cultural developments.

Ambubachi Mahayog

- The **four-day Ambubachi Mela** began recently at the historic **Kamakhya Temple**, a Shakti Peetha and a centre of tantric worship in Nilachal Hills of Guwahati, Assam.

- Shakti Peethas are revered centres of Shaktism—some traditions list 51 of them—where parts of Goddess Sati's body are believed to have fallen, and where the goddess is worshipped as the supreme deity.

- The Ambubachi Mela marks the **annual menstruation cycle of Goddess Kamakhya**, symbolising the power of creation and fertility.

- As per tradition, the **temple remains closed during these four days,** signifying the goddess's period of rest.

- **"Ambubachi" means spoken with water** and it also implies that the rains expected during this month make the earth fertile and ready for procreation.
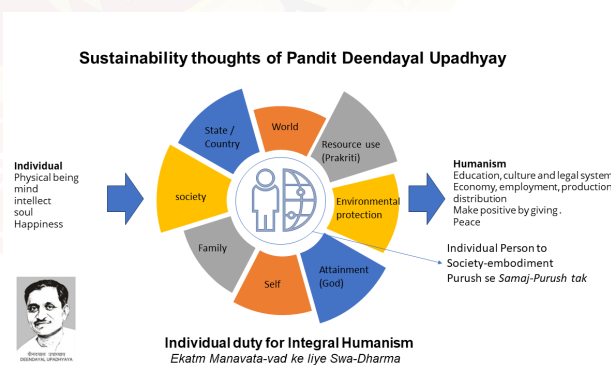
Astrolabe at Raigad Fort

- An 16th century astronomical instrument, Yantraraj (Astrolabe), has been discovered at Raigad Fort, Maharashtra.

- Astrolabes were commonly used by **astrologers and navigators to track stars and calculate directions.**

- Featuring **directional markings** like "mukh" (head) and "poonchh" (tail), the find suggests scientific and astronomical planning in the fort's construction.

- The instrument's upper surface has inscriptions in the **Sanskrit language and in Devanagari script**, with two animal engravings—likely a tortoise or snake—at the centre.

- Located in the **Sahyadri range near Mahad**, Raigad Fort was **declared the Maratha capital in 1674,** has the Gangasagar Lake, and is accessed via the Maha-Darwaja, its grand entrance**.**

Kolhapuri Chappal

- Kolhapuri chappal manufacturers have alleged that the **Italian luxury fashion brand Prada's** recent sandal design bear a striking resemblance to the traditional Kolhapuri chappals.

- Kolhapuri chappals are **handcrafted unisex leather sandals** traditionally made by artisans in **Maharashtra's Kolhapur district and parts of Karnataka.**

- Kolhapuri Chappal is a product granted **Geographical Indication (GI) status under India's Geographical Indications of Goods (Registration and Protection) Act, 1999 in 2019.**

- The Kolhapuri, along with **mojari, juttis, and Jaipuris**, constitute the unorganised footwear industry in India.

- The community of Charmakars traditionally makes Kolhapuri chappals and the term **'Charmakar' is of Sanskrit origin** and means leather artisan.

- The chappals are made from **animal leather** but undergo a **vegetable oil tanning** process which makes it more environment friendly.

Philosophy of Integral Humanism

Sustainability thoughts of Pandit Deendayal Upadhyay

Individual duty for Integral Humanism
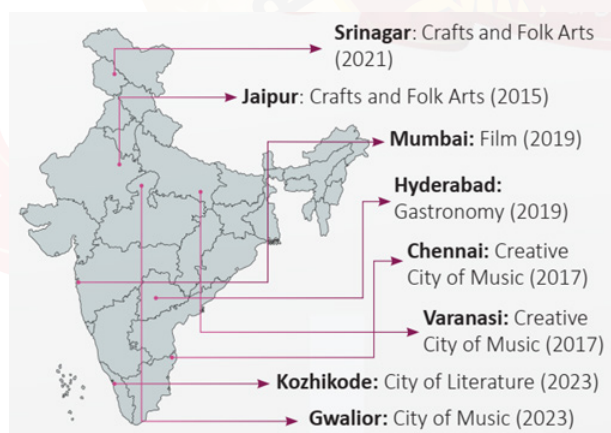*Ekatm Manavata-vad ke liye Swa-Dharma*

- The **60th anniversary of Pandit Deendayal Upadhyaya's philosophy of Integral Humanism** (1965) was marked by a national symposium in New Delhi.

- Integral Humanism (**Ekatm Manavvad**) is rooted in **Advaita Vedanta**, it promotes **oneness of all life**.

- It rejects divisions by race, caste, or religion, and emphasizes **Dharma Rajya** (duty-based state) and **Antyodaya** (welfare of the last person).

- Upadhyaya (1916–1968), a philosopher and co-founder of the **Bharatiya Jana Sangh**, opposed unchecked consumerism and industrialization without equity

- Deendayal was **orphaned** at a young age and later studied to clear the **Provincial Service Exam** but chose to dedicate himself to social and ideological work instead.

- He opposed both **Western capitalism** and **Marxist socialism**, proposing an **Indian model** centered on spiritual and cultural values

UNESCO City of Gastronomy Title

- **Lucknow** has been **nominated** for inclusion in the UNESCO Creative Cities Network (UCCN) as a "City of Gastronomy".

- The **UNESCO Creative Cities Network (UCCN)** was created in 2004 to promote cooperation with and among cities that have identified creativity as a strategic factor for sustainable urban development

- The UCCN is currently formed by **350 cities and covers seven creative fields**: Crafts & Folk Art, Design, Film, Gastronomy, Literature, Music and Media Arts.

- Currently, **eight Indian cities** are officially part of UNESCO's Creative Cities Network.

Srinagar: Crafts and Folk Arts (2021)
Jaipur: Crafts and Folk Arts (2015)
Mumbai: Film (2019)
Hyderabad: Gastronomy (2019)
Chennai: Creative City of Music (2017)
Varanasi: Creative City of Music (2017)
Kozhikode: City of Literature (2023)
Gwalior: City of Music (2023)

Geography

India's Coastline Measurement

- India's coastline has been remeasured at **11,098 km**, up from **7,516 km**, showing a **48% increase** due to more accurate methods. The earlier measurement used **low-resolution maps at a scale of 1:4,500,000**, which missed finer coastal features.

- The revised length is based on **high-resolution data (1:250,000 scale)** and modern **Geographic Information System (GIS)** technology, which maps land features precisely and includes previously excluded **offshore islands**..

Length of India's coastline along states	
State/UT	Coastline length (in km)
Gujarat	2,340.62
Maharashtra	877.97
Goa	193.95
Karnataka	343.3
Kerala	600.15
Tamil Nadu	1,068.69
Andhra Pradesh	1,053.07
Odisha	574.71
West Bengal	721.02
Daman and Diu	54.38
Pondicherry	42.65
Lakshadweep	144.8
Andaman and Nicobar	3,083.50

Source: Ministry of Ports, Shipping and Waterways

Ocean Darkening

- A new study, **Darkening of the Global Ocean**, finds that over **20% of the ocean** has darkened in the past two decades.

- **Ocean darkening** refers to the **reduction in sunlight penetration** into the upper layers of the ocean, known as the **photic zone,** the sunlit layer (up to 200m deep), which is critical for **photosynthesis** and marine life.

- Caused by factors like **algal blooms, sediment runoff**, **organic matter**, and **climate change** (e.g., warmer waters, altered plankton dynamics).

- It can impact **marine ecosystems, food chains, carbon cycling**, and **fisheries**, since most ocean life depends on light for survival and biological processes.

- The study used **Calanus copepods**, a genus of small, shrimp-like **zooplankton** found widely in **cold and temperate ocean water**, to detect changes in light availability.

  - ☛ They are **highly photosensitive** and respond to faint **light cues** from the Sun and Moon.

  - ☛ Their sensitivity to light makes them an ideal **indicator species** to study **changes in ocean light penetration** and **ocean darkening**.

  - ☛ Known for their **daily vertical migration**— rising to the surface at night to feed and sinking during the day to avoid predators.
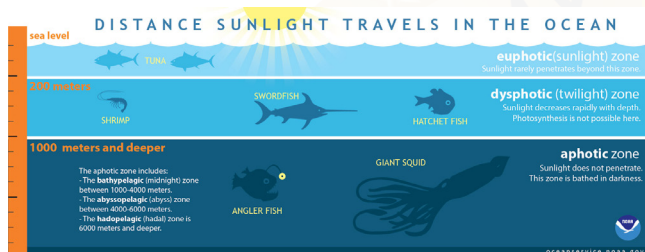
Cloudburst

- Two persons were killed, and over a dozen went missing after cloudbursts led to flash floods in **several districts of Himachal Pradesh.**

- A cloudburst is a localised but intense rainfall activity.

- Short spells of very **heavy rainfall over a small geographical area** can cause widespread destruction, especially in hilly regions where this phenomenon is the most common.

- Rainfall of **10 cm or more in an hour** over a roughly 10 km x 10-km area is classified as a cloudburst event.

- During a cloudburst event, **a place receives about 10% of this annual rainfall within an hour.**

- The **India Meteorological Department forecasts rainfall events** well in advance, but it does not predict the quantum of rainfall.

- The forecasts can be about **light, heavy, or very heavy rainfall,** but weather scientists do not have the capability to predict exactly how much rain is likely to fall at any given place.
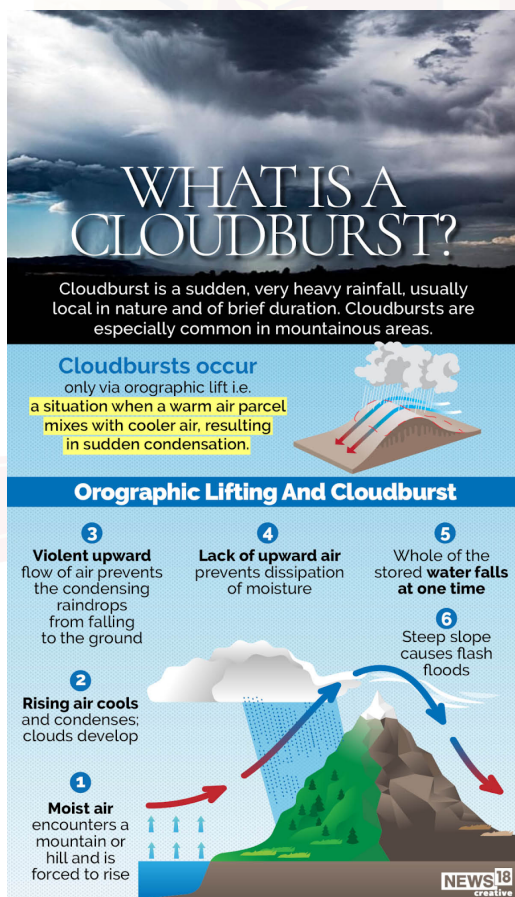
Coalition for Disaster Resilient Infrastructure (CDRI)

- The 7th year of the International Conference on Disaster Resilient Infrastructure (ICDRI), organised by the **Coalition for Disaster Resilient Infrastructure (CDRI)**, was held recently in **Nice, France.**

- The theme of the conference: **'Shaping a Resilient Future for Coastal Regions.'**

- CDRI was launched by India at the **U.N. Climate Action Summit of 2019.**

- **Headquartered in New Delhi,** CDRI's Secretariat holds the status of an International Organization.

- CDRI's mission is, by **2050, to drive US$10 trillion of new and existing infrastructure investments and services to be resilient** to natural hazards and climate change.

- This will be done through enhanced capacity, informed policy, planning, and management, thereby improving environmental quality, livelihoods, and overall well-being for more than 3 billion people worldwide.

Delhi Artificial Rain Project

- The **Delhi Environment Department**, in collaboration with **IIT Kanpur**, plans to use **cloud seeding** to combat air pollution.

- **Cloud seeding** is a **weather modification technique** used to **induce or enhance rainfall** by dispersing certain chemicals into moisture-laden clouds.

- Delhi hopes to trigger **artificial rainfall** to wash out pollutants like **PM2.5 and PM10** by using a **modified Cessna 206-H aircraft**.

- The aircraft will disperse a mix of silver iodide, iodised salt, and rock salt into moisture-rich clouds—typically cumulus or nimbostratus—at altitudes ranging from **500 to 6,000 metres**.

- This process stimulates **raindrop formation**, allowing the rain to cleanse the polluted air below.

- Although **cloud seeding** has shown **mixed but measurable success** in other countries, it is being considered as a potential emergency measure to **improve Delhi's air quality**.

Environment & Ecology

AviList

- AviList, the **first-ever unified global checklist of bird species**, became live recently after four years of work by the **Working Group on Avian Checklists.**

- The Working Group is an international **group of representatives** from BirdLife International, the Cornell Lab of Ornithology, the International Ornithologists' Union, the American Ornithologists' Society, and Avibase.

- The new checklist will **replace** the International Ornithological Committee (IOC) World Bird List and Clements lists and **will be a uniform list** which will be **updated annually.**

- AviList **supports** ornithologists, birdwatchers, conservationists, researchers, and policymakers globally and covers 11,131 bird species and 19,996 subspecies,

- The new checklist is published freely at **https://www.avilist.org/.** and can be downloaded in full for free.

Stratospheric Aerosol injection
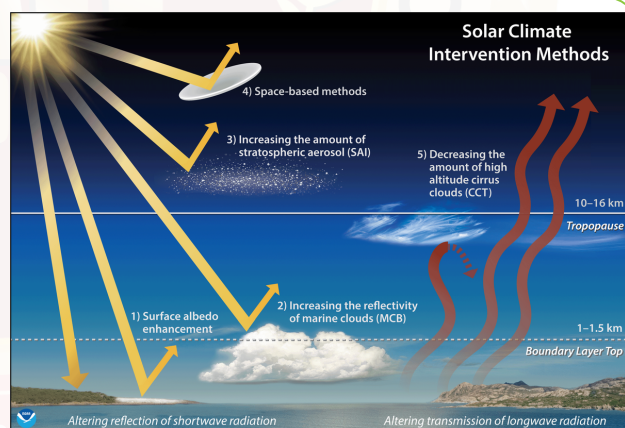
- A recent study proposes a more **affordable and practical method** for Stratospheric Aerosol Injection (SAI).

- SAI is a **climate engineering technique** that involves injecting aerosols into the **stratosphere** (approx 10 to 50 km above MSL) to reflect sunlight and cool the planet.

- Traditionally, SAI required **special high-altitude jets** at ~20 km.

- The new approach uses **modified commercial planes** to release **12 million tonnes of sulphur dioxide** at **13 km altitude**, possibly lowering global temperatures by **about 0.6°C**.

- The **benefits** include rapid cooling, temporary relief from climate change, and lower costs using existing aircraft.

- However, it remains **controversial** due to its global side effects, potential disruption of weather patterns, risk of unilateral deployment, and uncertain long-term ecological and health impacts

NDMA's New Approach to Landslide Management

- The National Disaster Management Authority (NDMA) is planning to adopt the **3Ms— mapping, monitoring, and mitigation**—to improve management of landslide-related disasters.

- This is in response to **changing rainfall patterns and rising instances** of floods and landslides.

- These efforts **aim to achieve the 3Rs:** resilient recovery, rapid response, and risk assessment.

- Climate change is projected to **increase the intensity of extreme rainfall event**s in India by 43% by 2030, making the country hotter and wetter.

- A **landslide refers to** the movement of rock, debris, or earth down a slope, and is a form of mass wasting driven by gravity.

  - ☛ **Factors** like heavy rainfall, snowmelt, water level changes, groundwater shifts, earthquakes, volcanic activity, and human disturbance can trigger landslides.

  - ☛ Similar movements can also occur underwater, known as submarine landslides.

  - ☛ NDMA is the **apex body** in India for **disaster management**, established under the **Disaster Management Act, 2005** and is headed by the **Prime Minister**

EnviStats India 2025

- The **Ministry of Statistics and Programme Implementation** released the 8th edition of "EnviStats India 2025", which provides **comprehensive environment statistics** for India.

- It acts as a **key resource** for policymakers, researchers, and stakeholders, offering insights into the country's **environmental conditions**, trends, and challenges.

- EnviStats India is based on the **UN's Framework for the Development of Environment Statistics (FDES), 2013.**

- FDES is a structured system developed by the UN to help countries systematically collect and analyze environmental data across **five key areas**: environmental conditions, economic interactions, residuals, disasters, and health impacts.

- **Key findings** show a rise in India's **mean annual temperature** from 25.05°C in 2001 to 25.74°C in 2024, with both minimum and maximum temperatures increasing.

- **Rainfall** patterns showed **year-to-year variation** but no clear long-term trend.

- Inland **fish production** more than doubled from 61.36 to 139.07 lakh tonnes (2013–2024), while marine output rose modestly.

- **Corporate spending** on environmental protection was highest in the Environmental Sustainability sector (₹2,433 crore in 2021–22), followed by Natural Resource Conservation, and lowest in Agro-Forestry.

Menar and Khichan Ramsar Site

- India has added two new Ramsar Sites— **Menar** (Udaipur) and **Khichan** (Phalodi) in **Rajasthan**, raising the total to **91 wetlands of international importance**

- **The Menar Wetland Complex** is a freshwater monsoon wetland complex formed by three ponds, **Braham talab, Dhand talab and Kheroda talab**, and agricultural land that connects the latter two.

  - ☛ The notable bird species at the site are the **critically endangered white-rumped vulture and long-billed vulture.**

- **Khichan Wetland**, located in the northern Thar Desert, comprises two water bodies, **Ratri nadi (river) and Vijaysagar talab (pond)**, riparian habitat and scrub land.

  - ☛ The site is especially recognised for hosting large wintering flocks of **migratory demoiselle cranes**, making up over 22,000 individuals each year.

The Ramsar Convention:

It is an intergovernmental treaty signed in **1971 in Ramsar, Iran.**

It encourages the protection and conservation of wetlands worldwide by designating them as such.

Ramsar sites are also known as **wetlands of international importance.**

According to the Convention, wetlands are defined as "areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres".

Science & Technology

Statins

- A study has found that **Statins, which are drugs that help lower 'bad' cholesterol**, could lower the death rate by nearly **40% for critically ill patients with sepsis.**

- **Sepsis**, in which the body's immune system overreacts to an infection with an exaggerated inflammatory response, can cause organ damage and be life-threatening.

- Statins, mainly used for protecting against **cardiovascular disease,** are being studied for treating inflammatory disorders.

- They work by blocking an enzyme called **HMG-CoA reductase** that our body uses to make cholesterol.

  - ☛ This will lower the amount of cholesterol your body makes.

Advanced Proton Therapy

- **Step-and-Shoot spot-scanning proton arc therapy (SPArc)** has been used for the first time to treat **adenoid cystic carcinoma**, a head and neck tumour.

- SPArc is an advanced form of **proton therapy**, a type of radiation treatment that uses **protons instead of X-rays** to treat cancer.

- It is especially useful for treating **hard-to-reach or sensitive areas**, such as head and neck tumors and **works by targeting tumours with protons** while sparing surrounding tissue.

- The SPArc methods reduced **radiation delivered** to the brainstem (by 10%), optic chiasm (56%), oral cavity (72%), and spinal canal (90%) over other techniques.

- The treatment used a computer program that mapped all spots and energy levels where proton beams could be delivered.

  - ☛ An **energy layer** refers to a specific depth in the body that receives proton beams of a particular energy—**higher energy reaches deeper tissue**, while lower energy treats shallower areas.

- The machine scans and delivers radiation to multiple spots within one energy layer, then switches to the next energy level to target deeper tissue, gradually **"painting" the entire tumour** with precise, controlled doses.

Axiom Mission 4 (Ax-4)

- **Group Captain Shubhanshu Shukla** created history, becoming the first Indian astronaut to reach the **International Space Station (ISS)** as the Axiom-4 (Ax-4) mission successfully docked with the orbiting laboratory, 41 years after **Rakesh Sharma's 1984 mission.**

- The Ax-4 crew, launched aboard a **SpaceX Dragon spacecraft** from Nasa's Kennedy Space Centre, completed a 28-hour journey before executing a flawless docking manoeuvre at the **ISS's Harmony module.**

- Axiom Mission 4 is the **fourth all-private astronaut mission** to the orbiting laboratory.

SPACE ODYSSEY: SHUX IN PILOT'S SEAT

LIFT-OFF: Wednesday 12.01pm IST from Kennedy Space Center, Florida.
DOCKING: Capsule to dock with International Space Station at 4.30pm IST, Thursday

Tibor Kapu, 33 (Hungary) — Mission specialist
Shubhanshu Shukla, 39 (India) — Pilot
Peggy Whitson, 65 (US) — Commander
Slawosz Uznanski, 41 (Poland) — Mission specialist

➤ Shukla is **second-in-command,** after mission commander Peggy Whitson
➤ He monitors and **intervenes if automation fails**
➤ He assists in **spacecraft operations, navigation and control** during launch, docking, re-entry, and landing
➤ Once docked with ISS, **he will join experiments, tech demos,** and outreach events

MISSION DURATION 14 DAYS

"The tricolour on my shoulder tells me that I am not alone, I am with all of you —Shubhanshu Shukla

"Shukla carries with him the wishes, hopes and aspirations of 1.4 billion Indians —PM Narendra Modi

Black Box

- The tragic **crash of an Air India Boeing 787-8** in Ahmedabad highlights the vital role of black boxes in aviation investigations.

- **Australian scientist David Warren** came up with the idea for the cockpit voice recorder after investigating the crash of the world's first commercial jet airliner, the Comet, in 1953.

- A black box comprises two parts:

  1. **Cockpit Voice Recorder (CVR):** Records radio transmissions, pilot voices, and engine sounds, crucial for understanding crew communications and ambient noise.
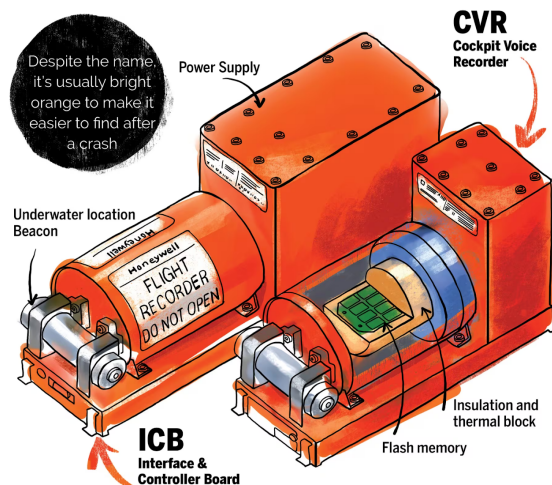
  2. **Flight Data Recorder (FDR):** Monitors at least 88 parameters (like altitude, airspeed, heading) in new planes, potentially over 1,000, allowing for computer-animated flight reconstruction.

Note: Helicopters are equipped with a (single) combined recorder, capable of recording all the data needed to characterise the flight (time, heading, altitude, power, temperature, rotor speed, outside temperature, etc.).
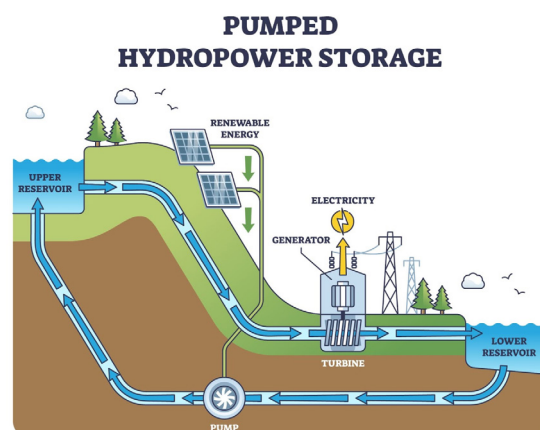
Black Box

A black box in aviation refers to a pair of flight recorders that capture key flight information. They are critical for investigations following an aircraft crash

NEWS 18 creative
Source: News Sources

Despite the name, it's usually bright orange to make it easier to find after a crash

Power Supply

CVR Cockpit Voice Recorder

Underwater location Beacon

FLIGHT RECORDER DO NOT OPEN
Honeywell

ICB Interface & Controller Board

Flash memory

Insulation and thermal block

Built to survive extreme conditions, black boxes can endure forces up to **3,400 Gs**, temperatures reaching **1,100°C**, and transmit signals every second from depths of up to **19,000** feet for as long as 30 days

India's first Variable Speed Pumped Storage Plant

PUMPED HYDROPOWER STORAGE

UPPER RESERVOIR
RENEWABLE ENERGY
ELECTRICITY
GENERATOR
LOWER RESERVOIR
TURBINE
PUMP

- India's first Variable Speed Pumped Storage Plant (PSP) at **Tehri, Uttarakhand,** has commenced commercial operation with a 250 MW unit.

- Variable Speed Pumped Hydroelectric Storage aims to use the **extra generated renewable energy for pumping water uphill to a reservoir**, which acts like a "natural battery," sometimes referred to as a water battery.

- When needed, the water is released to the hydropower plant downhill, so gravity is responsible for most of the energy.

- Flowing water spins turbines, which activate generators to produce electricity.

- In the Variable Speed Operation, the plant **can adjust turbine speed,** allowing precise control of pumping and generation, improving efficiency and grid support.

Actinobacteria

- The **Rajgir hot spring in Bihar**, has been identified as a site where thermophilic **Actinobacteria**, a group known for producing antibiotics, are abundant.

- **Thermophiles** (meaning "heat lovers") have been known to tolerate 45º to 70º C of heat.

- Such high temperatures offer a **mineral-rich neighbourhood** with relatively few competing life forms.

- To gain an edge, **some thermophilic bacteria produce potent antibiotics** as weapons to neutralise their competitors.

- **Actinobacteria** are well-known for producing antibiotics like streptomycin, tetracycline, and erythromycin.

- The discovery is crucial because it offers potential solutions to the **growing problem of AMR**, which is a major threat to global health.

- **Actinobacteria** often produce unique enzymes and compounds that are **stable at high temperatures**, making them valuable for industrial processes.

- Researchers used **metagenomics** that allows DNA/RNA analysis directly from environmental samples without culturing organisms to conduct the study.

Silica Gel Desiccant

- Silica gel sachets, labeled **"Do Not Eat,"** are commonly found in packaged goods.

- These small, translucent beads are made of **porous silicon dioxide** (it is essentially a synthetic form of sand) **and act as a desiccant,** absorbing excess moisture to prevent damage like corrosion, decay, or mold growth.

- The "Do Not Eat" **warning** is primarily due to a **choking hazard** (especially for children) and not toxicity (**most types are non-toxic, unlike silica dust**).

- The gel is **hydrophilic** and draws moisture into its nano-scale pores.

- Although often discarded, these desiccants can be easily reactivated and reused

- By heating the sachets at around **120ºC (250ºF)** for a couple of hours, the trapped moisture evaporates, making them effective again.

Teak Leaf Extract for Laser Safety
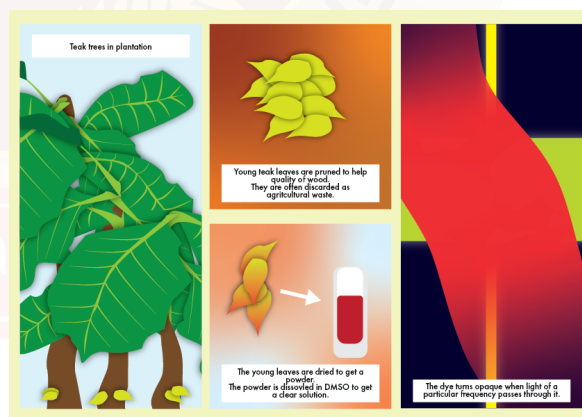
- Scientists at **Bengaluru's Raman Research Institute (RRI)** have found a natural, eco-friendly way to protect eyes and optical sensors from powerful lasers.

- They discovered that **extract from discarded teak leaves**, rich in natural pigments called **anthocyanins**, exhibits unique **"nonlinear optical (NLO)" properties.**

- This means the **leaf dye can absorb and adapt to intense laser light**, acting as an effective **optical limiter**.

- This innovation offers a safer and cheaper alternative to current expensive and potentially harmful materials like graphene, using readily available agricultural waste

Defence
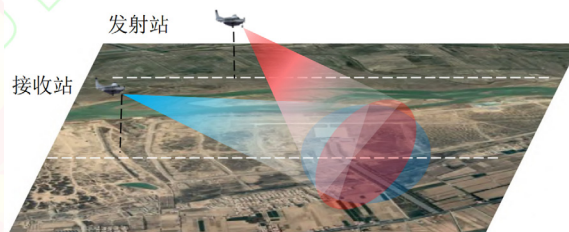
China's Silent Radar Technology
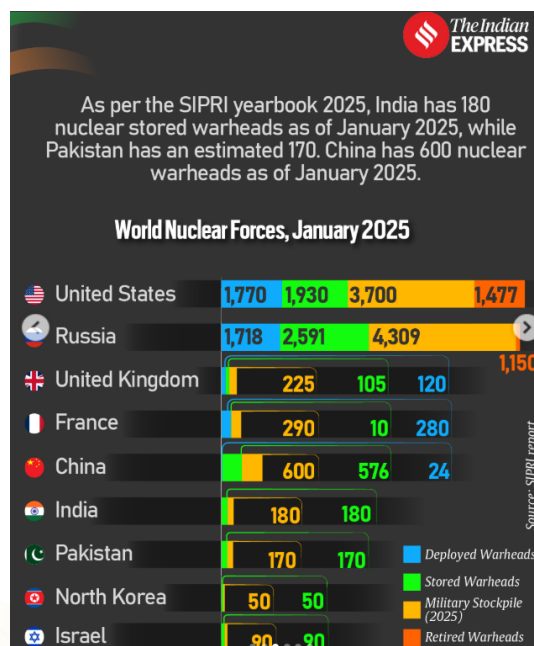

图 19 机载双基SAR飞行试验构型
Fig. 19 The flight experiment configuration of airborne BiSAR

- Chinese scientists have developed a radar system using **passive bistatic airborne radar (BiSAR),** where one aircraft transmits signals and another silently receives them, staying hidden.

- This setup **allows detection** of other aircrafts, drones, missiles, vehicles and ships even in noisy, complex terrain.

- Conventional radar systems face obstacles: When two radar units operate independently, the reflected signals can scatter.

- This phenomenon, known as **range migration**, causes target signals to blur.

- Additionally, the **Doppler effect,** which is crucial for identifying moving objects, becomes distorted and background noise often overwhelms the actual signals, complicating detection further.

- The new radar technology addresses these challenges with technologies like **Motion Correction, Spectrum Compression** (this process sharpens blurred Doppler signals) & **Space-Time Decoupling** (utilises a mathematical formula to separate clutter and aligns spatial frequencies to zero while maintaining relative speed profiles, leading to effective cancellation of environmental clutter)**.**

SIPRI Yearbook 2025

- The **Stockholm International Peace Research Institute (SIPRI)** reported that as of January 2025, the **global nuclear arsenal** stands at 12,241 warheads.

- Of this, 9,614 are in military stockpiles meaning they are **ready or available for use** by the armed forces.

- Russia and the USA together possess around 90% of all nuclear weapons.

- Nearly all nine nuclear-armed states are modernising their arsenals, with **China expanding fastest,** adding about 100 warheads annually since 2023.

- **India now has 180 warheads**, surpassing Pakistan's 170.

- SIPRI is an independent international institute established in **1966 and based in Stockholm, Sweden**.

- It conducts **research** on conflict, armaments, arms control, and disarmament, providing reliable open-source data and analysis to policymakers, researchers, and the public.

As per the SIPRI yearbook 2025, India has 180 nuclear stored warheads as of January 2025, while Pakistan has an estimated 170. China has 600 nuclear warheads as of January 2025.

World Nuclear Forces, January 2025

	Deployed Warheads	Stored Warheads	Military Stockpile (2025)	Retired Warheads
United States	1,770	1,930	3,700	1,477
Russia	1,718	2,591	4,309	1,150
United Kingdom		225	105	120
France		290	10	280
China		600	576	24
India		180	180	
Pakistan		170	170	
North Korea		50	50	
Israel		90	90	

Source: SIPRI report

Military operations

Operations in News	Country	Objective
Operation Midnight Hammer	USA	The US Air Force and Navy hit three Iranian nuclear sites - Fordow, Natanz and Isfahan.
Operation Bashayer Al-Fath	Iran	Against the United States in response to Operation Midnight Hammer. Iran attacked the **US Al-Udeid Air Base** in Doha, Qatar.
Operation True Promise 3	Iran	Used **Shahed-136 drones** targeting **Israeli operational support centers.**
Operation Rising Lion	Israel	Air strikes on Iran's Capital Tehran and uranium enrichment site in Natanz, and a nuclear research centre in Tabriz.

Exercise

Exercise	Countries Involved	Force	Remarks
Khaan Quest	Multinational involving India	Army	Held in Ulaanbaatar, Mongolia. The exercise began as a bilateral initiative between the United States and the Mongolian Armed Forces in 2003.
EUNAVFOR	India-EU	Navy	Full form: **India, European Union Naval Force plan;**
Exercise Shakti	India-France	Army	The eighth edition was held at **La Cavalerie in France**.
Passage Exercise (PASSEX)	India-UK	Navy	Held in the North Arabian Sea.
Nomadic Elephant	India- Mongolia	Army	The Exercise is an **annual event** conducted alternatively in India and Mongolia. This year it was held in Ulaanbaatar, Mongolia.

Miscellaneous

Global Tobacco Epidemic Report

- The **WHO's Global Tobacco Epidemic 2025 report**, launched at the World Conference on Tobacco Control in Dublin with Bloomberg Philanthropies' support, highlights progress in global tobacco control.

- It tracks six proven strategies under the **MPOWER framework: Monitor** tobacco use, **Protect** people from smoke, **Offer** help to quit, **Warn** about health dangers, **Enforce** bans on ads, and **Raise** taxes.

- As of 2024, 110 countries implement at least one best-practice MPOWER measure, covering 62% of the global population, and 25 countries have adopted plain packaging.

- **India stands out for its graphic health warnings**, its pioneering regulation of tobacco content in digital streaming platforms, and is the world's second-largest producer and consumer of unmanufactured tobacco, producing nearly 770,000 tonnes annually.

Performance Grading Index (PGI) 2.0

- **The Performance Grading Index (PGI) 2.0** report was released by the **Ministry of Education** to assess school education performance.

- It was first launched in **2017 with 70 indicators** and in 2023 was revamped with 73 indicators and 6 domains, aligning with National Education Policy, 2020.

- The domains are **Learning Outcomes, Access, Infrastructure & Facilities, Equity, Governance Processes, and Teacher Education & Training**.

- The Grading scale is classified into 10 scales from **Daksh** to **Akanshi-3** from top to bottom.

- Top Rank: **Chandigarh** scored 703 points (Prachesta-1)

- Lowest Rank: **Meghalaya** scored 417 points (Akanshi-3)

- **No State in Top 4 Bands**: No State/UT reached Daksh (Top 951-1000) or Utkarsh bands, showing systemic gaps.

Scores (% of total points)	Score range	Grade
91% to 100%	941-1000	Daksh
81% to 90%	881-940	Utkarsh
71% to 80%	821-880	Atti-Uttam
61% to 70%	761-820	Uttam
51% to 60%	701-760	Prachesta -1
41% to 50%	641-700	Prachesta -2
31% to 40%	581-640	Prachesta -3
21% to 30%	521-580	Akanshi-1
11% to 20%	461-520	Akanshi-2
Up to 10%	401-460	Akanshi-3

Rinderpest Holding Facility

- India has recently joined the elite global group for **Rinderpest Virus 'Cattle Plague'** Containment.

- The ICAR-National Institute of High Security Animal Diseases (NIHSAD) in Bhopal has been designated as a **Category A Rinderpest Holding Facility**.

- It has been recognised by the **World Organisation for Animal Health – WOAH** and the **Food and Agriculture Organization- FAO** of the United Nations.

- Rinderpest, also known as **cattle plague**, was a highly **contagious** and deadly viral disease that primarily affected cloven-hoofed animals, especially cattle and buffalo.

- Rinderpest was **officially declared eradicated** in 2011, making it the second disease, after smallpox, to be eradicated globally.

- The recognition places India among a distinguished group of **only six facilities** worldwide entrusted with the critical responsibility of securely holding rinderpest virus material, mainly for research purposes.

Aircraft Accident Investigation Bureau (AAIB)

- The Aircraft Accident Investigation Bureau (AAIB) recently started the probe on the Air India plane crash at the Ahmedabad airport.

- **Section 7 of the Aircraft Act 1934** (now replaced by **The Bharatiya Vayuyan Adhiniyam, 2024**) empowers the Government of India to make rules for investigation of accidents arising out of or in the course of the navigation in or over India of any aircraft, or anywhere of aircraft registered in India.

- Earlier, The **Directorate General of Civil Aviation (DGCA)'s Air Safety Directorate** handled aircraft related investigations.

- As per **International Civil Aviation Organization (ICAO)'s international standards** regulation of airspace and investigation had to be independent.

- Subsequently, the **Aircraft (Investigation of Accidents and Incidents) Rules, 2012** led to the formation of AAIB under the **Ministry of Civil Aviation**.

- AAIB, now a statutory body under the 2024 Act, investigates accidents and suggests safety measures.

Yoga break at workplace

- The **5-minute yoga break at workplace** is getting global acceptance particularly in the context of **World Yoga Day (June 21).**

- It was developed by India's **Ministry of AYUSH.**

- Its aim is to help working professionals **de-stress, refresh, and re-focus** during their workday, thereby improving productivity and overall well-being.

- It comprises simple **yoga practices** including **asanas (postures), pranayama (breathing techniques), and dhyana (meditation)** that can often be done even at one's desk.

- The Y-Break protocol was launched in **January 2020** on a pilot project basis in six major metro cities.

- The Y-Break mobile app was formally launched later, on **September 1, 2021**, by the Ministry of AYUSH

Places in News

Iran's Nuclear Facilities

US strikes three nuclear facilities in Iran

- The recent military actions by the **United States against Iran's nuclear installations** have escalated tensions in the Middle East.

- The operation - codenamed **Midnight Hammer** - involved 125 US military aircraft and targeted three nuclear facilities:

  - ☛ **Fordow**: located buried in a mountain near the **city of Qom.**

  - ☛ **Natanz**: Iran's primary **enrichment facility.**

  - ☛ **Isfahan**: multi-purpose research center suspected of being the center of a secret Iranian nuclear weapons program and operates three small Chinese-supplied research reactors.

- The US used **bunker buster bombs**, the sole weapons that could conceivably reach the concealed site.

- The UN's nuclear watchdog said there had been no increase in radiation levels after the attack, showing limited nuclear damage..
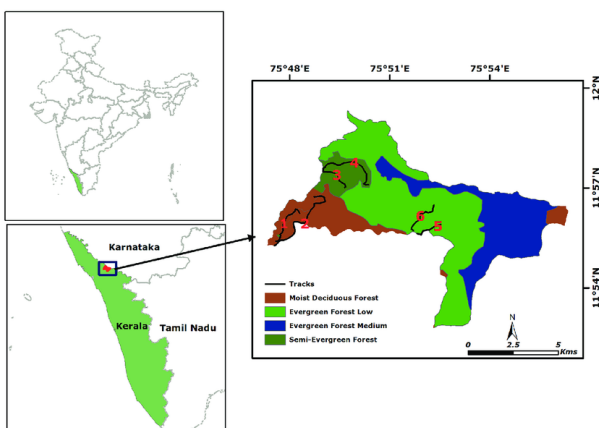
The Sariska Tiger Reserve

- The Sariska Tiger Reserve in Rajasthan is undergoing changes in its **Critical Tiger Habitat (CTH)** as the government plans to redraw the boundaries for the reactivation of over 50 mining operations.

- Sariska was declared a sanctuary in 1955 and became a Tiger Reserve under Project Tiger in 1979.

- It stretches over an area of **881 km²** comprising **scrub-thorn arid** forests, **dry deciduous forests, grasslands, and rocky hills in Alwar district, Rajasthan**.

- This area was a **hunting preserve** of the Alwar state and was declared a wildlife sanctuary in **1958**.

- It is a tiger habitat spread over the **world's oldest mountain range**- the **Aravallis** and has the unique distinction of successfully **reintroducing the tiger** after its local extinction.

- The Sariska Tiger Reserve currently has a tiger population of 49, as of June 2025

'Rationalising' Sariska Boundaries

Proposed south-western limits of Critical Tiger Habitat (CTH)
Areas excluded from CTH
Mining blocks to be beyond 1-km from new CTH limits
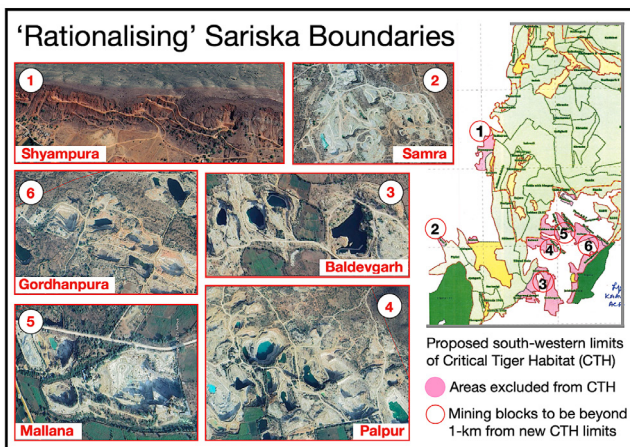
Aralam Butterfly Sanctuary

- **The Aralam Butterfly Sanctuary,** located in **Kannur, Kerala**, has recently gained recognition as India's first protected area dedicated solely to butterflies.

- It is home to more than **260 species** of butterflies.

- It is unique because of the number of butterfly species that pass through the sanctuary as part of their **seasonal** or **annual migration** routes including the elegant **Common Albatross** and various **Danaine** species.

- It also houses herds of **elephants, sambar, Nilgiri Langur, Hanuman Langur and the Malabar Giant Squirrel.**

- The **Cheenkanni Puzha River** forms the main drainage system of Aralam

Greater Flamingo Sanctuary
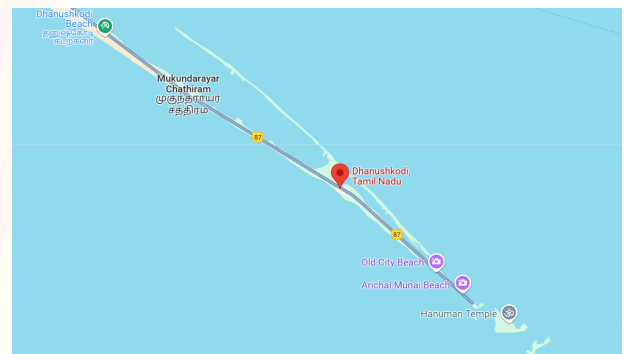
- **The Tamil Nadu** government has established a **Greater Flamingo Sanctuary** at **Dhanushkodi**, coinciding with World Environment Day (June 5).

- It is a critical stopover point along the **Central Asian Flyway** for thousands of migratory wetland birds.

- It is a part of the ecologically sensitive **Gulf of Mannar Biosphere Reserve** and includes mangroves, sand dunes, mudflats, and marshes.

- Mangrove species such as **Avicennia** and **Rhizophora** dominate the Dhanushkodi lagoon, providing essential breeding grounds and natural defenses against coastal erosion.

Banakacherla Reservoir

Polavaram – Banakacherla Link Project
Andhra Pradesh vs. Telangana

---> indicates the general direction of flow of the link project

- The Banakacherla reservoir project has ignited **a fierce political debate between Telangana and Andhra Pradesh** recently.

- The ambitious project will link the **Godavari and Krishna River basins** via reservoirs, canals, and lift irrigation scheme.

- It was **first envisioned in 2014** after the bifurcation of Andhra and Telangana.

- The Banakacherla reservoir project is meant to transform **Andhra Pradesh's drought-prone Rayalaseema region into fertile land.**

- The project aimed to divert water from the **Polavaram multipurpose project on the Godavari to the Krishna basin** using the canal network of Nargarjunasagar and Srisailam reservoirs situated on the Krishna.

- **The Godavari River** is the second-longest river in India and the longest in peninsular India.

  ☛ It originates from the **Brahmagiri Hills**, located in the Nashik district of Maharashtra.

- **Krishna River** rises at Mahabaleshwar near the Jor village in the extreme north of Satara district.

Croatia

- The Prime Minister of India became the **first Indian Prime Minister to visit Croatia**, after attending the **G7 Summit in Canada.**

- Croatia is considered a potential partner in the **India-Middle East-Europe Economic Corridor (IMEC)** due to its well-developed Adriatic ports and EU connectivity.

- The **University of Zagreb in Croatia** is a historic centre for Indology.

- The lands that today comprise Croatia were part of the **Austro-Hungarian Empire** until the end of World War I.

- It is bordered by 5 countries: Bosnia and Herzegovina, Hungary, Montenegro, Serbia, Slovenia.

## Yemen's Hodeidah Port

Source: GAC Yemen
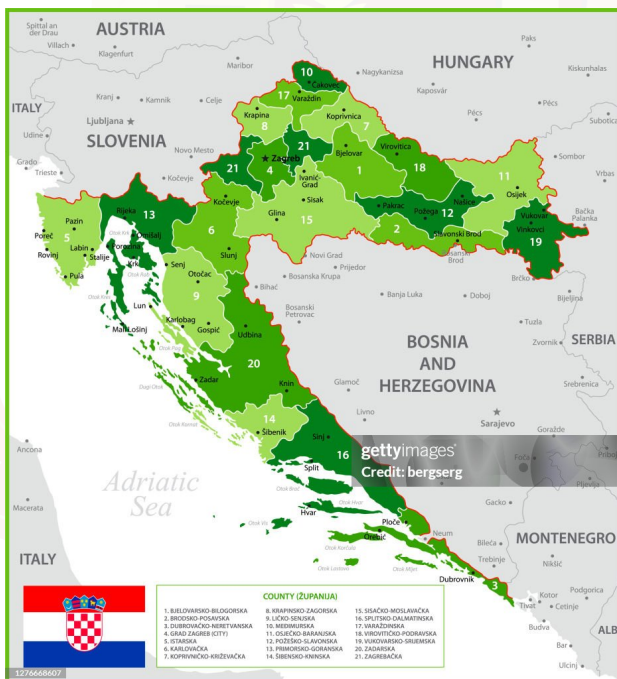
- **Israel conducted its first-ever naval strike on Yemen**'s Hodeidah Port, targeting docks allegedly used by **Houthi rebels** to transfer weapons.

- **Hodeidah Port** is situated on the **coastal plain that borders the Red Sea** & is one of the **country's chief ports** and has modern facilities.

- The port is **vital for nearly two-thirds of Yemen's population,** who depend heavily on imported food, fuel, and medicine. Its importance grew after the 2015 conflict escalation and blockade, which severely disrupted essential supplies.

Save Valley

- **Zimbabwe** has approved the culling of **50 elephants in Save Valley Conservancy** due to ecological overcapacity and human-wildlife conflict.

- The reserve currently holds around **2,550 elephants, far exceeding its ecological carrying capacity of 800** causing an unsustainable situation by putting immense strain on the habitat and increasing the risk of human-wildlife conflict.

- The Savé Valley Conservancy is **one of the largest private game reserves in Africa**.

- Located in the **South Eastern lowveld of Zimbabwe**, bordering on the **Save River** on its eastern side, the Conservancy comprises 750,000 acres of diverse wildlife habitat.

- It consists of Southern African game species, including the **Big Five (elephant, lion, leopard, buffalo, and rhino).**

- It is also home to one of Africa's largest populations of critically endangered **black and** near threatened **white rhinos,** and to a healthy population of endangered **African Wild Dogs**.

Great Rann of Kachchh
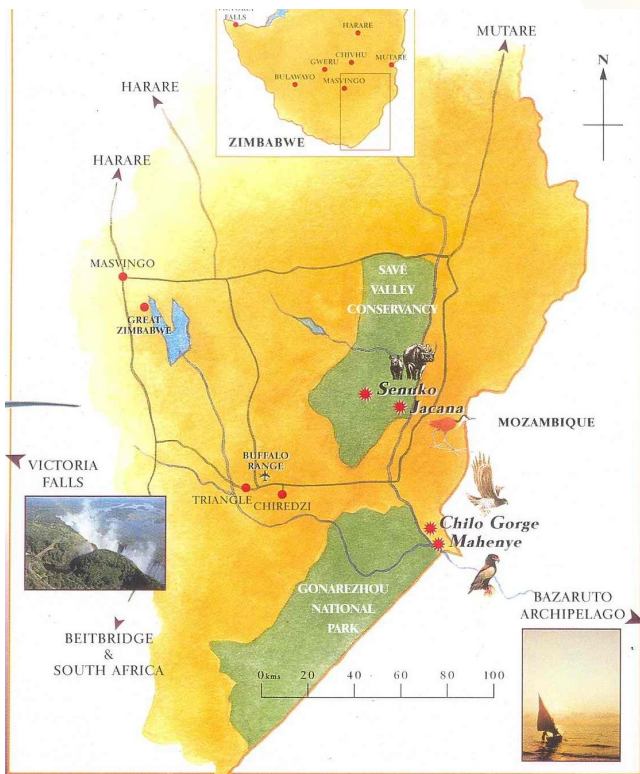
- Recent evidence from **Khadir island** in the Great Rann of Kachchh (Kutch) suggests human presence with links to Arabian Sea coastal communities long before the Indus Valley civilisation city of **Dholavira's settlement**.

- The **Rann of Kachchh is a vast area of saline mudflats** in west-central India and southern Pakistan, divided into the **Great and Little Rann.**

- Its name derives from **Hindi "Rann" (desert)** and Sanskrit **"Kachchh" (tortoise).**

- Once a shallow part of the Arabian Sea, a **geological shift** closed its connection.

- The Great Rann is a bowl-shaped depression merging with the **Luni River's drainage,** and was **historically described as a non-navigable gulf** in the ancient Greek Periplus Maris Erythraei.

- Kachchh is the **largest district in India**

Chenab Rail Bridge and Anji Khad Bridge

- Prime Minister Narendra Modi recently inaugurated the **Chenab Rail Bridge** and **Anji Khad Bridge** in Jammu and Kashmir.

- Both will be key components of the **Udhampur-Srinagar-Baramulla Rail Link (USBRL)** project providing all-weather rail connectivity to Kashmir.

- The 1.3 km **Chenab Rail Bridge**, located in Reasi district, is the **world's highest railway arch bridge**, standing 359 meters tall (35m higher than the Eiffel Tower).

- Engineered by Konkan Railway Corporation with design input from IISc Bengaluru, and seismic analysis by IIT Delhi and Roorkee, it's designed to withstand magnitude 8 earthquakes, 40-tonne TNT blasts, and extreme temperatures/winds.

- Uniquely, it can **remain stable even if one of its eight piers fails.**

- The **Anji Khad Bridge** is **India's first cable-stayed rail bridge** and the country's second-highest railway bridge.

- It is constructed over the **Anji Rive**r, a tributary of the Chenab River

- The Chenab River, a major Indus tributary, is formed by the Chandra and Bhaga rivers in Himachal Pradesh

Species in News

Eurasian Otter

NEAR THREATENED
NT

- The Eurasian otter (**Lutra lutra**), once thought extinct in Kashmir for nearly three decades, has been spotted again in the **Lidder River.**

- This semi-aquatic mammal, known locally as **Vuder.**

- The sudden decline in otters, a **carnivorous mammal** that feeds on fish and other aquatic fauna, was attributed to **increased water pollution and hunting** of the mammal for its fur.

- Lutra lutra is listed as **Near Threatened** according to IUCN.

- Wildlife Protection Act, 1972: **Schedule 1**

Lidder or Liddar River originates from the **Kolahoi Glacier** in the Himalayas, near Sonamarg, J&K.

It flows for about 73 km and is a major tributary of the **Jhelum River**.

Valley: The river flows through the picturesque **Lidder Valley**, with the popular tourist town of **Pahalgam** centrally located in it.

Himalayan Long-tailed Myotis
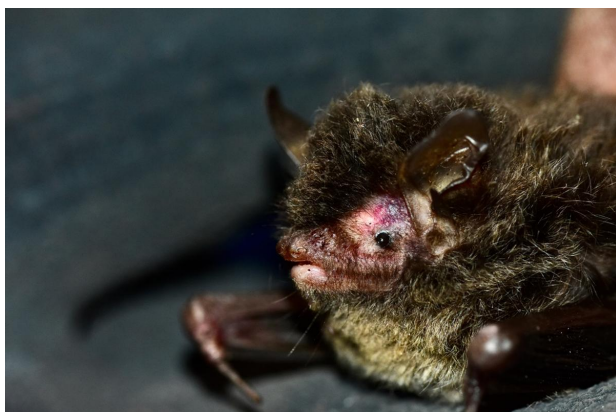
- Recent research has revealed **a new bat species Himalayan Long-tailed Myotis (Myotis himalaicus)** in the Western Himalayas, bridging the ecological gap between India and Pakistan.

- The new species belongs to a group of morphologically similar species called the **Myotis frater complex,** which has a wide distribution from eastern China, Taiwan, central and southeastern Siberia, Korea, Japan, Tajikistan, and Uzbekistan.

- Believed to be native to the southern slopes of the Himalayas, this species has so far been spotted in **Deodar, Pine, and Cedar forests**

King Cobra

- A male king cobra has died at the **Van Vihar National Park in Bhopal,** two months after being brought from a wildlife facility in Mangalore.

- The king cobra is the **world's longest venomous snake** and grows as much as 18 feet long.

- It is considered one of the **most intelligent snake species,** as it changes its hunting strategy according to circumstances.

- King cobras are beneficial for biodiversity and ecosystem and are called **friends of farmers** as they eat rodents.

- It **prefers humid, dark forests with thick undergrowth,** cool swamps, and bamboo patches across diverse habitats.

- Importantly, king cobra is called a **cobra due to its appearance,** but scientifically, it's **not a true cobra** because it's not in the **Naja** genus but belongs to **Ophiophagus** genus, meaning "snake-eater.

  ☛ Despite taxonomic differences, king cobras **share some traits with true cobras**—like hood expansion and hissing—hence the common name "cobra."

- Wildlife Protection Act, 1972: **Schedule 1**

Totapuri Mangoes
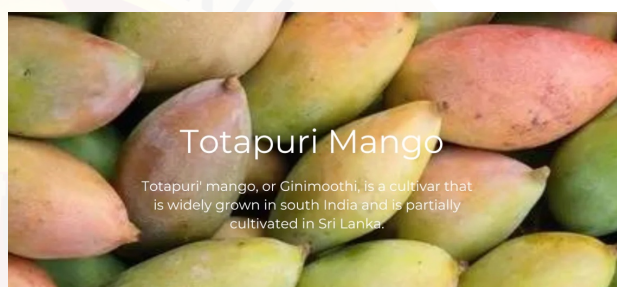
- **The Andhra Pradesh** government imposed a **ban on the entry of Totapuri mangoes from Karnataka** into Chittoor district.

- This decision has led to tensions between the two states.

- Totapuri, also known as **Bangalore or Sandersha**, is a mango variety grown in the bordering districts of Andhra Pradesh, Karnataka, and Tamil Nadu.

- Known for their **elongated shape and distinct parrot beak-like tip** (hence "Totapuri"), the variety is valued for its juice and pulp and they are used aplenty in mango drinks.

- Andhra Pradesh's Chittoor district is home to several mango processing and pulp extraction companies that procure Totapuri mangoes from local markets.

Bonnet Macaque

BONNET MACAQUE
Macaca radiata

CONSERVATION STATUS: VULNERABLE
- Also known as "zatis"
- Named for the cap-like tuft of hair atop their heads
- Endemic to India's southern peninsula
- Found in a variety of forest types as well as agricultural and urban areas, but not tolerant of disturbed habitats
- Threatened primarily by human-wildlife conflicts and a variety of human activities, including habitat loss

NEW ENGLAND
PRIMATE
CONSERVANCY

- The Bonnet macaque, a South Indian endemic primate **also known as "zatis,"** is facing population control in Kerala due to significant crop damage, especially to coconuts.

- Found **across peninsular states** including Telangana, Andhra Pradesh, Goa, Gujarat, Karnataka, Kerala, Maharashtra, and Tamil Nadu, these monkeys **live 20-25 years** in the wild.

- Distinguished by a **tufted fur cap**, they are diurnal, active on both ground and trees, and use all four limbs for climbing (quadruped).

- Wildlife Protection Act, 1972: **Schedule 1**

- Their IUCN status is **Vulnerable**.

> **Note:**
>
> **Monkey** is a broad, general term for a large group of primates. It encompasses many different species that share certain characteristics.
>
> **Macaque** is a specific **genus** (a more specific classification group) **within** the broader category of monkeys.

New Gecko Species Discovered

- Researchers announced the discovery of a new gecko species**, Dravidogecko coonoor**, in the **Coonoor Hills** of **Nilgiris, Tamil Nadu.**

- A gecko is a small to **medium-sized lizard** belonging to the family **Gekkonidae**, found in warm climates all over the world

- Following the discovery, the number of Dravidogecko **species found across the Western Ghats now stands at nine.**

- Dravidogecko is the **only species of gecko endemic to the high elevation regions of the Western Ghats.**

- They **exist entirely outside the protected area network** making them highly susceptible to population decline due to habitat fragmentation, deforestation and potentially, climate change.

Indian Rat Snake

RED LIST
LEAST CONCERN
LC

- The Indian Rat Snake, scientifically known as **Ptyas mucosa**, is being considered by the State Board for Wildlife of **Kerala for declaration as the official state reptile.**

- It is also known as **Manja Chera and Karinchera and is non-venomous**.

- It is commonly found in human habitations and plays a major role in **controlling the rodent population** that damages agricultural crops including grains and tubers in fields and farmlands that spread infectious diseases - **hence they are called farmer's friends.**

- They also consume the **hatchlings of venomous and dangerous snakes**, such as cobras.

- The species is found in most parts of the country **including Andaman Island.**

- Wildlife Protection Act, 1972: **Schedule 1**

- IUCN Red List: Least Concern

Siamese Fireback

- The Siamese Fireback, **Thailand's national bird**, has been spotted for the first time in the forests of **Ranikhet, Uttarakhand**.

- It is commonly found in the dense, **humid forests of Thailand, Laos, Cambodia and Vietnam.**

- Its grey body, blue-orange wings, red beak, and elegant gait make it highly attractive.

- The **male attracts the female with a captivating dance-like display**, spreading its wings to showcase its vibrant colours.

- The bird is known for **its alert and shy nature**, spending most of its time foraging on the forest floor.

- Its presence in Ranikhet indicates that the environment there is still balanced and biologically rich.

Portulaca bharat

- Researchers have discovered a new species of flowering plant endemic to India, specifically found in the rocky, semi-arid **Aravalli hills near Jaipur, Rajasthan.**

- Named "bharat" to honor the nation, this succulent features **pale-yellow to creamish-white flowers, opposite leaves, glandular hairs** on its stamen filaments, and thick roots.

  - ☞ In botany, **succulent plants**, also known as succulents, are plants with parts that are thickened, fleshy, and engorged, usually to retain water in arid climates or soil conditions.

- With its current provisional IUCN assessment as **"Data Deficient,"** its status remains precarious due to its limited known occurrence at only one location.

- The genus Portulaca currently comprises **about 153 species worldwide**, primarily found in tropical and subtropical regions.

- In **India, 11 species are currently known**, including four endemics, mostly distributed in dry and semi-arid habitats.

Keywords

- **Exposome**: It refers to all **non-genetic environmental exposures** a person experiences from **conception to death**, and how these exposures affect **health and disease**. It includes both **external** (like pollution, diet) and **internal** (like stress, metabolism) factors, helping understand how the **environment interacts with biology** over a lifetime.

- **Gatekeeper Platforms:** They are **big digital companies** like Google, Apple, Amazon, and Meta that control how businesses reach users—like through app stores or search engines—giving them **major power over the digital economy**. To ensure fair and open digital markets, India is considering a **Digital Competition Law,** modeled on the EU's Digital Markets Act, to regulate these dominant platforms.

- **Wilful Defaulters:** As per the RBI classification, a **'wilful default'** would be deemed to have occurred if the borrower has defaulted in meeting their repayment obligations to the lender **even when they have the capacity** to honour the obligations. A wilful default also happens when the **borrower has not utilised the finance** from the lender **for the specific purpose for which finance was availed of,** and has diverted the funds for other purposes.

- **Operation Sindhu:** It is the humanitarian evacuation mission launched by **the Ministry of External Affairs to evacuate Indian nationals from Iran** as a result of the ongoing conflict between Iran and Israel.

- **Operation Secure:** The Operation was launched by **Interpol and along with law enforcement agencies from 26 countries, including India**, and private anti-virus companies, aimed at combating cybercrime, specifically targeting information-stealing malware. It was launched in January 2025 and concluded in April 2025.

- **Dharti Aaba Janbhagidari Abhiyan (DAJA): The Ministry of Tribal Affairs** launched the largest tribal outreach and empowerment campaign, dedicated to holistic development and benefit saturation across tribal regions. DAJA is a **participatory, camp-based delivery model to provide access to critical entitlements and government services**, including, Adhaar Card Enrolments among others,

- **International Day Against Unilateral Coercive Measures:** The United Nations General Assembly adopted a resolution designating **December 4 as the International Day Against Unilateral Coercive Measures.** Unilateral Coercive Measures are economic, financial, or trade sanctions imposed by one country on another without the authorization of the United Nations.

- **Zero-Dose children:** They are children who have **not received even a single vaccine shot.** For operational purposes, Gavi (international vaccine alliance) and WHO defines zero-dose children as infants who have not received the first dose of **diphtheria, tetanus, and pertussis-containing vaccine (DTP)** by the end of their first year of life.

- **NAKSHA programme**: The NAtional geospatial Knowledge-based land Survey of urban HAbitations (NAKSHA) was initiated by the **Ministry of Rural Development** and aims to reform urban land surveys using advanced geospatial technologies. It was announced in 2024 as part of **Digital India Land Records Modernization Programme (DILRMP)** and its second phase was launched in June.

- **Sugamya Bharat App:** It is a **crowdsourced accessibility platform** launched in **2021** by the Department of Empowerment of Persons with Disabilities under the Ministry of Social Justice & Empowerment. It allows users—including persons with disabilities and elderly citizens—to **report accessibility barriers** in public spaces, transportation, and digital media by uploading **geo-tagged photos**, prompting authorities to take corrective action