

Factly Monthly

Compilation

2025

**For UPSC CSE Prelims
Exam**

September 2025

INDEX

Registrar General of India (RGI) and Census 2027.....	5
Blue Dragons	6
Green Credit Programme (GCP)	7
Green bonds.....	8
Orcinus Orca (Killer Whale).....	9
Samagra Shiksha scheme	11
Vikramaditya Vedic Clock.....	12
CEREBO	13
Bairabi-Sairang Railway Line.....	15
Ramon Magsasay Award	16
BHARATI Initiative.....	17
Srivilliputhur-Meghamalai Tiger Reserve (SMTR)	17
Niveshak Didi – Phase II	18
RTE and Minority Educational Institutions	19
Senna Invasion.....	20
Vikram-32	21
Exercise MAITREE-XIV	21
Goods and Services Tax (GST) 2.0	22
Majorana Particles	24
Immigration and Foreigners (Exemption) Order, 2025.....	24
National Institutional Ranking Framework (NIRF)	25
Operation Black Forest	26
Particularly Vulnerable Tribal Groups (PVTGs): Separate Enumeration.....	27
Immigration and Foreigners Act, 2025.....	28
Environment Auditors.....	29
Angikaar 2025.....	30
Why Punjab Keeps Flooding	31
Rajasthan's Coaching Centre Bill, 2025	31
Beas River	32
Taliban Sanctions Committee (TSC)	33
Functional Genomics	34
Self-Respect Movement.....	34
Beas River	35
Taliban Sanctions Committee (TSC)	36
Functional Genomics	37
Self-Respect Movement.....	39
Account Aggregator	40

Factly Compilation September 2025

Blood Moon	41
Protein Language Model (pLM)	42
Bhupen Hazarika	43
National Annual Report & Index on Women's Safety (NARI) 2025	44
Exercise ZAPAD 2025	44
Langkhun / Lankhong Festival	45
EnteroMix Cancer Vaccine	46
Small Satellite Launch Vehicles (SSLVs)	48
Swachh Vayu Survekshan 2025.....	48
Acharya Vinoba Bhave.....	49
Cross River Gorilla	50
INS Aravali	50
Réunion Island	51
All-India Debt and Investment Survey (AIDIS) and the Situation Assessment Survey (SAS) of Agricultural Households	52
Samudra Pradakshina	53
Sahyadri Tiger Reserve	54
SWAGAT-FI.....	54
Coast Guard Global Summit 2025	55
Belarus.....	56
Pink Tax.....	57
Defence Procurement Manual 2025	57
Romania	58
Erra Matti Dibbalu (red sand dunes)	59
Kaveri / Cauvery River	60
Combined Commanders' Conference 2025	62
International Electrotechnical Commission (IEC)	62
Exercise Pacific Reach 2025 (XPR 25).....	63
Manki-Munda system.....	64
Gyan Bharatam Portal	65
Operation Weed Out	66
Carlsberg Ridge.....	67
Chhath Mahaparva	68
AI for Viksit Bharat Roadmap and NITI Frontier Tech Repository	68
National Means-cum-Merit Scholarship Scheme (NMMSS)	69
Air Defence RADARS	70
Japanese Encephalitis (JE)	72
Global Innovation Index (GII) 2025.....	73
Speed Skating World Championships 2025	74

Factly Compilation September 2025

National Policy on Geothermal Energy (2025)	75
Blue Ports Framework	76
NE-SPARKS Initiative	77
Seven Indian sites have been added to UNESCO's Tentative List	78
Corporate Bond Index Derivatives	80
Chabahar Port	81
Gulf of Finland	82
Fast Patrol Vessel ICGS Adamyia	83
Universal Postal Union (UPU)	83
Supercomputers	85
Exercise Amogh Fury	86
Industrial Park Rating System (IPRS) 3.0	87
Dadasaheb Phalke Award	88
Data User's Conference on the Time Use Survey (TUS), 2024	89
CPCB Report on River Pollution	90
Ballon d'Or Award, 2025	92
National e-Governance Awards (NAeG) 2025	92
Maitri 2.0 Cross-Incubation Programme	93
Bagram Air Base	94
Tirah Valley	94
World Food India 2025	95
Siyom River	97
Almatti Dam	97
Production Gap Report 2025	98
DRAVYA Portal	99
SAHAJ Programme	100
Tamil Nadu Coastal Restoration Mission (TN-SHORE)	101
Barren Island	102
Vishwamitri River	103
K visa	104
EU Deforestation Regulation (EUDR)	105
Environmental Accounting on Forest 2025	106
GST Appellate Tribunal (GSTAT)	107
Forum for India-Pacific Island Cooperation (FIPIC)	108
World Para Athletics Championships 2025	110
2G Ethanol	111
Tropical Cyclone Ragasa	113
WTO Agreement on Fisheries Subsidies	115
National Science and Technology Survey of India	117

Factly Compilation September 2025

National Security Act (NSA), 1980.....	118
Drone Wall Initiative	119
Indian Ports Act 2025.....	121
Musi River	123
Cold Desert Biosphere Reserve	124
Petroleum and Natural Gas Regulatory Board (PNGRB)	126
Laser Interferometer Lunar Antenna (LILA)	127
South-South and Triangular Cooperation (SSTC)	128
Traditional Ritual Theatres of India.....	130
Wassenaar Arrangement.....	131

Registrar General of India (RGI) and Census 2027

News: The Registrar General of India (RGI) has requested a budget of ₹14,618.95 crore to conduct the Census 2027, which will be India's first "Digital Census" and will also include the collection of caste data.

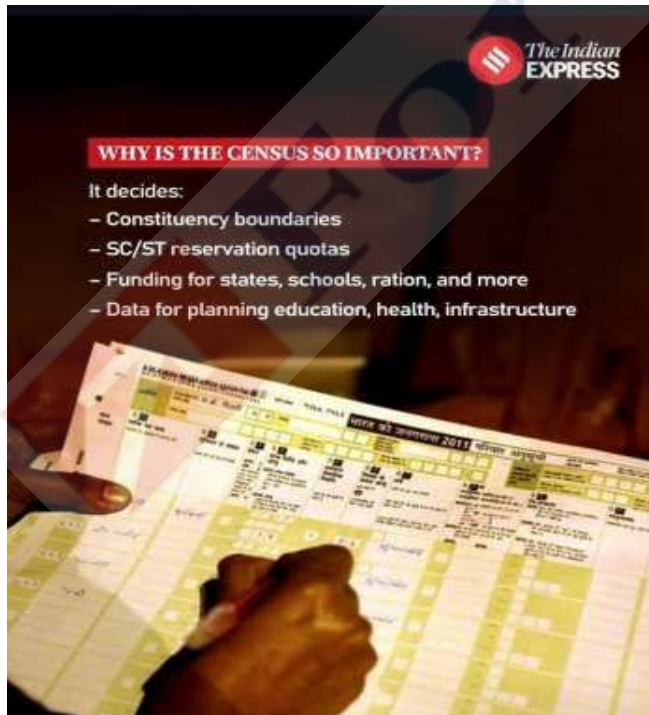
About Registrar General of India (RGI)

- In 1949, the Government of India created a **permanent organisation** under the **Ministry of Home Affairs**, headed by the **Registrar General and Ex-Officio Census Commissioner of India**.
- The main responsibility of this office is to **systematically collect data** on India's **population size, growth, and distribution**.
- The **RGI also implements the Registration of Births and Deaths Act, 1969**. The post is usually held by a **civil servant of Joint Secretary rank**.
- Apart from the decennial **Census**, the office also conducts **demographic and linguistic surveys**.

Main Functions of the RGI

- **Census (Population & Housing Census):** Conducts India's **decadal Census** under the **Census Act, 1948**.
- **Civil Registration System (CRS):** It is responsible for **compulsory registration of births and deaths** under the **RBD Act, 1969** and coordinates with states and UTs for smooth functioning.
- **National Population Register (NPR):** It maintains a database of all people **usually residing in India**, under the **Citizenship Act, 1955** and **Citizenship Rules, 2003**.
- **Mother Tongue Survey:** It also surveys and documents **mother tongues** reported in multiple census decades.
- **Sample Registration System (SRS):** It conducts **large-scale surveys** of births and deaths twice a year. It also provides vital statistics like **Birth Rate, Death Rate, Infant Mortality Rate (IMR), and Maternal Mortality Rate (MMR)** at the state level.

About Census 2027



- The **Census 2027** will be the **16th Census overall** and the **8th Census since Independence**.
- It collects data at the **village, town, and ward level** on various aspects such as: Housing conditions, amenities, and assets, Demography and religion, Scheduled Castes (SCs) and Scheduled Tribes (STs), Language, literacy, and education and economic activity, migration, and fertility

Features of Census 2027

- **First Digital Census:** Data will be collected using **dedicated mobile applications**. Citizens will have the option of **self-enumeration**.
- **Caste Enumeration:** On **April 30, 2024**, the **Cabinet Committee on Political Affairs (CCPA)** approved the inclusion of **caste enumeration** in Census 2027. **Caste data** will also be recorded electronically for the first time.
- **Real-Time Monitoring:** The RGI is creating a **Census Monitoring & Management**

System (CMMS) website for real-time supervision. **Over 35 lakh enumerators and supervisors** will be deployed, which is more than **30% higher** compared to the 27 lakh staff in Census 2011.

Blue Dragons

News: Several beaches in Spain and Famara beaches in Lanzarote were closed earlier this month after blue dragons began to wash ashore.

About Blue Dragons



- Blue dragons are **mollusks** and **belong to the nudibranch family**, which means they are related to snails.
- **Scientific name:** Glaucus atlanticus.
- It is also called the **sea swallow, blue angel, or blue dragon**.
- **Habitat:** Blue dragons **live in warm tropical and subtropical waters across the world**.
- **Distribution:** They are most commonly spotted along the **coasts of Australia, South Africa, and parts of Europe**.
- **Characteristics**
 - They **float upside-down at the ocean's surface** using a gas-filled sac in their stomach to stay buoyant.
 - **Size:** They usually grow to a length of **about 4 centimetres**.
 - **Diet:** Blue dragons feed primarily on the **Portuguese man-o-war and other venomous jellyfish**.
 - They are **immune to the venom** of their prey.
 - After feeding, they **steal the stinging cells (nematocysts)** from jellyfish and **store** them for their own defense.
 - **Appearance:** Blue dragons have a **striking blue upper side**, which helps them blend in with the sea.
 - Their **underside is white, allowing them to blend with sunlight when seen from below**.

- **Ecological Role:** Blue dragons help **control the population of jellyfish**, including the dangerous Portuguese man-o-war.
 - They also serve as **food for sea turtles, some fish, and seabirds.**
- **Predators:** **Sea turtles** are one of the main predators of blue dragons and are not affected by their venom.
- **Threat**
 - **Ocean pollution**, especially **plastics** that resemble jellyfish.
 - **Climate change** also threatens them by altering the ocean currents and temperatures that they rely on for survival.
- **Blue dragons are dangerous to humans** because their sting can cause **pain, swelling, nausea, and breathing difficulties.**
 - Even **dead** blue dragons can **sting** because the stinging cells remain active after death.

Green Credit Programme (GCP)

News: The Environment Ministry notified a new methodology on **August 29** for tree-plantation credits under the Green Credit Programme (GCP).

About Green Credit Programme (GCP)

DELIVERY ON BUDGET PROMISES (2023-24)
Ministry of Environment, Forest and Climate Change

Green Credit Programme
PROGRESS SO FAR

- The Green Credit Programme launched at national level to to incentivise pro-environmental actions by various stakeholders.

The Green Credit Rules notified by the Government of India on 12th October 2023 under the Environment (Protection) Act, 1986.

- Green Credit Programme (GCP) encourages industries, companies and other entities to meet their existing obligations/other obligations under any law, and encourages other persons and entities, to undertake voluntary environmental measures inter-alia 'tree plantation', resulting in award of Green Credits.

ANNOUNCEMENT

- For encouraging behavioural change, a Green Credit Programme will be notified under the Environment (Protection) Act.
- This will incentivize environmentally sustainable and responsive actions by companies, individuals and local bodies, and help mobilize additional resources for such activities.

FinminIndia | Finmin.goi | www.finmin.nic.in

Source – FinMin

- It is an **innovative market-based mechanism** designed to **incentivize voluntary environmental actions** across diverse sectors, by various stakeholders like individuals, communities, private sector industries, and companies.
- **Launched:** It was launched in November 2023 at COP28 in Dubai by the Prime Minister of India.
- **Operated by:** The GCP's governance framework is supported by an **inter-ministerial Steering Committee.**
- The Indian Council of Forestry Research and Education (**ICFRE**) serves as the **GCP Administrator**, responsible for program implementation, management, monitoring, and operation.

- **Legal basis:** The **Green Credit Rules** have been notified by the Government of India on 12th October 2023 under the **Environment Protection Act, 1986**.
- **Major changes in Rules**
 - **Award timeline**
 - **Current provision:** Credits are awarded only after 5 years.
 - **Earlier provision:** Credits could be awarded within 2 years.
 - **Canopy density criterion**
 - **Current provision:** A minimum canopy density of 40% is required.
 - **Earlier provision:** The benchmark was 1,100 trees per hectare.
 - **Calculation method**
 - **Current provision:** Credits are calculated using vegetation status, change in canopy density, and the number of surviving trees.
 - **Earlier provision:** Credits were calculated based on meeting the per-hectare planting density benchmark.
 - **Unit of credit definition**
 - **Current provision:** One green credit for each new tree older than 5 years.
 - **Earlier provision:** The earlier methodology did not specify that one green credit would be awarded per tree older than five years.
 - **Verification and evaluation**
 - **Current provision:** Credits are issued after evaluation and verification by designated agencies.
 - **Earlier provision:** Not expressly specified earlier.
 - **Credit tradability and transfer**
 - **Current provision:** Non-tradable and non-transferable. Exception: transfer allowed between a holding company and its subsidiaries.
 - **Earlier provision:** Market-based trading on a platform was provided.

Green bonds

NEWS: Global issuance of green bonds has crossed \$3 trillion and reached \$577 billion in 2024, yet they account for only 3 per cent of the bond market.

About Green bonds



Figure 1. Source – LiveMint

- Green bonds are **debt instruments** issued by governments (Sovereign Green Bonds issued by RBI), corporations, and multilateral banks to **raise funds for projects** that **reduce emissions** or enhance climate resilience.
- **Interest payments:** Like other **bonds**, these bonds provide **investors fixed interest payments**.
 - Investors in green bonds are usually **long-term**, impact-focused investors looking for

stable returns and **compliance** with green financing mandates.

- **Less tax:** Generally, governments provide **tax incentives like tax credits** to make them **attractive** for investors.
- **Regulators**
 - **Securities and Exchange Board of India (SEBI)** for corporate green bonds and
 - The **Ministry of Finance (Department of Economic Affairs)** (which oversees the Green Finance Working Committee) for sovereign green bonds.
- The **World Bank** issued the first official green bond in **2009**.
- **Status:** India's **corporate bond market** is about **17 per cent of GDP** and its **green bond segment** is about **4 percent**.
- **Different from other types of bonds**
 - **Yield:** These bonds typically offer **lower yields (interest rates)** than conventional bonds, allowing issuers to raise funds at a lower cost (**greenium**).
 - **The greenium, or green premium**, is the yield difference that creates a cost advantage for issuers, and a **higher greenium makes green investments more attractive**.
 - **Commitment:** The **proceeds** from Green Bonds are **exclusively earmarked for green and environmentally sustainable projects**.
 - For regular bonds, the issuer can use the proceeds for various purposes at her discretion.
- **Green bonds market feature**
 - Issuers **often offer lower yields** than conventional bonds and commit to use proceeds exclusively for green investments.
- **Issues**
 - High compliance, certification, and reporting costs disadvantage smaller entities and create an uneven field.
 - The **absence of global standardisation** in green definitions reduces comparability for investors and issuers.
 - **Greenwashing** risks erode credibility, and funding of thermal power alongside green fundraising confuses investors.
 - **Greenwashing** refers to the misrepresentation of a bond's environmental credentials, where the proceeds may not genuinely fund green projects or deliver meaningful benefits, which dents investor trust and market credibility.

Orcinus Orca (Killer Whale)

News: A new study in the Journal of Comparative Psychology investigates why orcas are provisioning humans.

About Orcinus Orca (Killer Whale)



Source – TH

- It is a **dolphin** in the family Delphinidae, **not a true whale**, and it is the most widely distributed of **all cetaceans**.
- It is commonly called as the **killer whale**.
- It is an extremely **fast swimmer**, reaching about **54 kph**.
- **Size: Adult males** are about **5 m long** and can weigh up to **8 tons**, while **females** are **7-8.5 m long** and weigh **4 tons or more**.
 - **Its calves** at birth measure **2-2.4 m**.
- **Diet:** Its diet includes **fish, squid, turtles, birds, and dolphins**, and it preys on large **marine mammals**, including the largest whales.
- **Natural predators:** Killer whale has **no known natural predators**, except possibly other killer whales.
- **Behaviour**
 - It is highly **social**, like approaching fishing vessels to check nets or observe people.
 - This behavior is due to high levels of **encephalisation**, meaning a larger brain size relative to the size of the body.
- It relies on **underwater sound** to feed, communicate, and navigate.
- These animals **live and hunt in groups** led by a **matriarch**, the oldest female, and the group's behaviour largely **depends on the matriarch**.
- **Distribution**
 - **Habitat and range:** Killer whale occurs in all oceans and across a **wide range of habitats in both open seas and coastal waters**, mainly in **cold regions** such as **Antarctica, Norway, and Alaska**, but also in tropical and subtropical waters.
 - **India:** In India, they are reported from the **Andaman and Nicobar Islands**, the southeast coast off **Andhra Pradesh, northern Tamil Nadu and Pondicherry**, and the west coast from **Maharashtra to Kerala**.
- **Conservation status:** Data Deficient (IUCN).

Samagra Shiksha scheme

News: The Supreme Court has issued a notice to the Centre after Tamil Nadu reported that funds under the Samagra Shiksha scheme have been separated from reimbursements mandated by the Right to Education (RTE) Act.

About Samagra Shiksha Scheme



Source: samagra.education

- It is an **integrated scheme for school education** covering the entire spectrum from **pre-school to class XII**.
- It treats school education as a **continuum** in line with the **Right to Education Act, 2009, NEP 2020, and SDG-4 on Education**.
- **Timeline:** The scheme has been **extended till 2025-26**.
- **Type:** It is a **centrally sponsored scheme**.
- **Beneficiaries:** It covers **1.16 million schools, 156 million students, and 5.7 million teachers** in government and aided schools.
 - It involves all stakeholders: teachers, students, parents, community, school management committees, teacher educators, and volunteers.
- **Integrates three earlier major schemes:** Sarva Shiksha Abhiyan (SSA), Rashtriya Madhyamik Shiksha Abhiyan (RMSA), and Teacher Education (TE) into one comprehensive platform.
- **Objectives**
 - The scheme aims to **provide quality education, enhance learning outcomes, and ensure equity and inclusion** by bridging social and gender gaps across all levels of schooling.
 - It **focuses on maintaining minimum standards in schools, promoting vocational education, and supporting States in the effective implementation of the RTE Act, 2009**.
 - It also seeks to **strengthen and upgrade SCERTs, State Institutes of Education, and DIETs as nodal agencies** for dynamic and need-based teacher training.
- **Features**
 - **Holistic Approach to Education:** Samagra Shiksha views school education as a continuum from pre-school to Class XII, bringing both pre-school and senior secondary into the fold for the first time.

Factly Compilation September 2025

- **Administrative Reform:** It introduces a unified administrative structure with flexibility for States and UTs to set priorities, ensuring integrated planning for the entire school system.
- **Quality of Education:** The scheme focuses on teachers and technology, strengthens SCERTs and DIETs, and makes SCERT the nodal body for training.
 - It supports **Rashtriya Avishkar Abhiyan, Padhe Bharat Badhe Bharat**, and provides library grants to all schools.
- **Digital Education: Operation Digital Board**, smart classrooms, and ICT expansion up to higher secondary aim to transform learning.
 - Platforms like UDISE+ and Shagun are strengthened for monitoring and digital delivery.
- **Strengthening of Schools:** Transport facilities are expanded, composite grants increased, and Swachh Vidyalaya activities supported, with emphasis on improved infrastructure.
- **Girl Education: Kasturba Gandhi Balika Vidyalayas** are upgraded to Class XII, self-defence training is provided, and Beti Bachao Beti Padhao is reinforced.
- **Inclusion: Uniform and textbook support** has been enhanced, while assistance for children with special needs has increased, with stipends for girls with disabilities.
- **Skill Development:** Vocational exposure begins at upper primary and extends to Classes IX–XII with practical, industry-linked training.
- **Sports and Physical Education:** Sports are integrated into the curriculum, with grants for sports equipment across all school levels.
- **Regional Balance:** Priority is given to educationally backward blocks, LWE-affected districts, border areas, and aspirational districts identified by NITI Aayog.

Vikramaditya Vedic Clock

News: Madhya Pradesh Chief Minister launched a 'Vedic clock' and its mobile app, on 1st September 2025.

About Vikramaditya Vedic Clock



Source – TH

- The 'Vedic Clock' is the **world's first timepiece** engineered to display time based on the **ancient Hindu Panchang** (time calculation system).

Created with love ❤ by ForumIAS- the knowledge network for civil services.
Visit academy.forumias.com for our mentor based courses.

- **Developed by:** Lucknow-based Sanstha Arohan
- It is installed on an **85-foot tower** within the **Jantar Mantar complex in Ujjain**, Madhya Pradesh.
- **Features**
 - It offers details on **planetary positions, Muhurat, astrological computations, and forecasts.**
 - It also displays Indian Standard Time (IST) and Greenwich Mean Time (GMT).
 - It can be **connected to the internet** and offers numerous features through a **mobile app named after the clock.**
- **Operational Mechanism**
 - The clock will measure time **between two sunrises.**
 - The time span between the two sunrises will be **split into 30 segments**, with **each hour comprising 48 minutes**, according to ISD.
 - The measurement will **begin at 0:00**, coinciding with **sunrise**, and will continue for 30 hours (where each hour equals 48 minutes).

Mobile App of Vikramaditya Vedic Clock

- The mobile app is available in **189 languages** and carries **calendar and religious information** spanning **7,000 years.**
- It contains rare information about **Panchang, Tithi, Nakshatra, Yoga, Karan, Day, Month, Vrat [fasts] and festivals** of more than 7,000 years from 3,179 **Vikram Purva** [birth of *Shri Krishna*], during the **Mahabharata period.**
- There is also information about **30 different auspicious and inauspicious Muhurats** and an alarm facility for religious works, fasts and meditation

Temporal and spatial importance of Ujjain

- Ujjain has a long-standing **heritage in timekeeping**, spanning centuries.
- It has played a crucial role in establishing **India's time zones and differences.**
- **Location:** It is **situated** precisely at the **intersection point of the zero meridian and the Tropic of Cancer.**
- **Before the adoption** of the 82.5E longitude for IST, Ujjain (75.78E) was regarded as **India's time meridian.**
- The **Vikrami Panchang and Vikram Samvat** calendars are also **released** from Ujjain, making it the perfect location for the Vedic Clock.

CEREBO

News: ICMR confirms clinical validation of CEREBO for rapid, deployable TBI screening across emergency settings.

About CEREBO



Source – TH

- It is a **device for Traumatic Brain Injuries (TBI)** that detects intracranial bleeding and edema within a minute.
 - It delivers **radiation-free, colour-coded, and cost-effective results**.
 - It is **safe for infants and pregnant women**.
- **Developed by:** It has been developed through a collaboration between **ICMR, the Medical Device & Diagnostics Mission Secretariat, AIIMS Bhopal, NIMHANS Bengaluru, and Bioscan Research**.
- **Technology applied:** It has been developed **using advanced near-infrared spectroscopy technology powered by machine learning**, which enables rapid non-invasive assessment of brain injury indicators.
- **Significance:**
 - It provides an **option** in settings where **CT or MRI access is inaccessible** or delayed.
 - It enables **faster decisions** by detecting intracranial bleeding and edema within a minute for early TBI identification.
 - It is designed for **deployment in ambulances**, trauma centres, rural clinics, and disaster response units to **strengthen frontline care**.
 - It can be used by **paramedic staff and unskilled personnel** to support effective frontline triage.
 - It is **backed by clinical validation**, regulatory approvals, and feasibility studies as stated by ICMR.

About Traumatic Brain Injuries (TBIs)

- TBI is a condition **caused by a sudden trauma or injury to the head**, which disrupts normal brain function.
- **Causes:** This injury can range from **mild (concussion) to severe**, often resulting in long-term physical, cognitive, emotional, and behavioural impairments.
- **Severity:** The severity of TBI depends on **factors** such as the force of impact, the location of the injury, and the individual's overall health.
- **Status in India**
 - It is estimated that nearly **1.5 to 2 million persons are injured** and one **million succumb to death** every year in India.
 - **Road traffic injuries** are the leading cause (60%) of TBIs followed by falls (20%-25%) and violence (10%).

Bairabi-Sairang Railway Line

News: Mizoram will soon be connected to the national railway network through new **Bairabi-Sairang Railway Line**.

About Bairabi-Sairang Railway Line



Figure 2. Source: IE

- The Bairabi-Sairang broad-gauge railway line is 51.38 km long.
- The line will connect Mizoram to the national railway network for the first time.
- It terminates at Sairang, which is located about 20 km from Aizawl, the state capital.
- The route links Mizoram with Silchar in Assam via Bhodahpur Junction.
- The project is part of Indian Railways' larger plan to connect Nagaland, Manipur, Meghalaya, and Sikkim with the national railway network by 2030.
- **Features**
 - The railway line includes 48 tunnels with a total length of 12.85 km, and the longest tunnel is about 1.37 km.
 - It has 55 major bridges, with the longest bridge measuring about 1.3 km in length.
 - The tallest structure is the Krung Bridge at Sairang, which stands 114 m above its base.
 - The project also includes 87 minor bridges, five road overbridges, and six road under bridges.
 - It is designed with advanced engineering to handle challenging terrain and seismic risks.
- **Significance**
 - The railway line will significantly

reduce travel time between Silchar and Mizoram from 10 hours by road to about 3 hours by train.

- It will provide an affordable mode of travel for all categories of people compared to long road journeys and expensive flights.
- The project is expected to boost economic activities in Mizoram, with a special focus on trade and tourism.
- Sairang expected to be a hub for goods from Myanmar's Sittwe Port.

- It supports India's **Act East Policy** by enhancing connectivity with ASEAN and East Asia.

Ramon Magsasay Award

News– The 'Foundation to Educate Girls Globally', an Indian non-profit focused on promoting girls' education, has been selected as a 2025 Ramon Magsaysay Award recipient.



Figure 3. Source- Nationalherald

About Ramon Magsasay Award

- It was *established in 1957* to honour the legacy of Ramon Magsaysay, the *seventh President of the Philippines*, remembered for his integrity and leadership.
- *First presented in 1958*, it is widely regarded as *Asia's highest honour* and is often called the "*Asian Nobel Prize*."
- The award is *conferred every year on August 31*, Magsaysay's birth anniversary, in Manila, Philippines.
- Each awardee is honoured with a medallion, a certificate, and a cash prize.

Objectives

- To celebrate greatness of

spirit and transformative leadership in Asia.

- To honour *individuals and organisations* for selfless service and contributions to the public good, irrespective of race, creed, gender, or nationality.

Award Categories

- **1958–2008:** Given in six categories –
 - Government Service
 - Public Service
 - Community Leadership
 - Journalism, Literature & Creative Communication Arts
 - Peace & International Understanding
 - Emergent Leadership (introduced in 2000 with Ford Foundation support)
- **Since 2009:** Fixed categories discontinued, *except Emergent Leadership*. Selections are now based on overall merit of leadership and service.

Significance for India

- Several Indians have been awardees, including Verghese Kurien, M.S. Subbulakshmi, Kiran Bedi, Aruna Roy, and Bezwada Wilson.

- In 2025, *Educate Girls* became the first Indian organisation to win the award, marking a milestone in India's contribution to social transformation.

BHARATI Initiative

News: The APEDA launched its new initiative **BHARATI** on the sidelines of the "Food & Beverages Sector Stakeholders Meeting" chaired by Union Minister of Commerce and Industry.

About BHARATI Initiative



Figure 4. Source – APEDA

- BHARATI stands for – **Bharat's Hub for Agritech, Resilience, Advancement and Incubation for Export Enablement.**
- **Launched by:** Agricultural and Processed Food Products Export Development Authority (**APEDA**)
- **Aim:** This initiative aims to **empower 100 agri-food and agri-tech startups**, accelerate innovation, and create export opportunities, aligned to APEDA's vision of **\$50 billion** agri-food exports by **2030**.
 - It also aims to build **globally competitive** agri-products, deepen **demand-led backward integration**.
- **Launch and scale:** Its **pilot cohort** begins from **September 2025** with **100 startups** (high-value agri-food producers, technology-driven service providers, innovators).
- It is aligned with **Atmanirbhar Bharat, Vocal for Local, Digital India, and Start-Up India** initiatives.
- **Features**
 - **Programme design:** It complements government- and industry-led incubators and runs a **three-month acceleration** on product development, export readiness, regulatory compliance, and market access.
 - **Focus categories:** Focus areas include **GI-tagged** products, **organic** foods, **superfoods**, **novel processed Indian agri-foods**, **livestock**, and **AYUSH**
 - **Tech focus:** It invites advanced technologies such as **AI-based quality control**, **blockchain-enabled traceability**, **IoT-enabled cold chains**, and **agri-fintech**, while addressing **packaging, sustainability, and sea protocols**.
 - **Challenges targeted:** It tackles export bottlenecks of **quality assurance, perishability, wastage, and logistics**.
 - **Ecosystem building:** It connects agri-food innovators, tech-driven solution providers, and **SPS-TBT-focused startups** to deliver scalable, cost-effective solutions.

Srivilliputhur-Meghamalai Tiger Reserve (SMTR)

News: The unauthorised construction of roads within Srivilliputhur-Meghamalai Tiger Reserve (SMTR) in the ecologically sensitive Western Ghats has recently drawn concern.

About Srivilliputhur-Meghamalai Tiger Reserve (SMTR)



Figure 5. Source – TH

● **Location:** It is located in the **Southern Western Ghats of Virudhunagar and Madurai districts of Tamilnadu.**

● It is the **5th Tiger Reserve of Tamil Nadu** and the **51st tiger reserve of India.**

● **Formation:** It was formed in **February 2021** by **combining two wild life sanctuaries** namely –

○ **Grizzled Squirrel WLS**

○ **Megamalai WLS**

● It is part of a corridor linking the **Periyar Tiger Reserve in Kerala** to the forests of **Tamil Nadu's Southern Kalakkad-Mundanthurai Tiger Reserve.**

● **Rivers:** It relies on **three perennial rivers: Vaigai, Suruliyaru, and Shanmuganathi.**

● **Vegetation:** It has a **mix of tropical evergreen forests and semi-evergreen forests, dry deciduous forests and moist mixed deciduous forests with grassland.**

- **Fauna:** Elephants, Tiger, Leopard, Nilgiri Tahr, Gaur, Spotted Deer, Barking Deer, Sambar Deer, Wild Boar, Porcupine, Nilgiri Langur, Lion-Tailed Macaque etc.

Niveshak Didi – Phase II

News: Recently, the Investor Education and Protection Fund Authority (IEPFA) has successfully inaugurated Phase II of Niveshak Didi.

About Niveshak Didi – Phase II

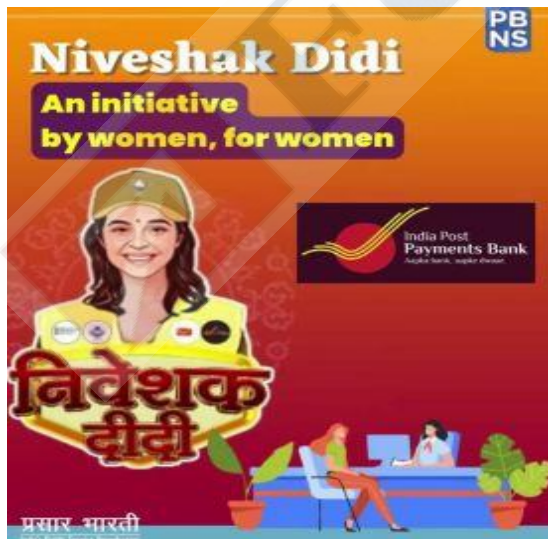


Figure 6. Source – Prasar Bharati

● It is **flagship financial literacy initiative** by **Ministry of Corporate Affairs**

● **Launched by:** Investor Education and Protection Fund Authority (IEPFA), under the Ministry of Corporate Affairs.

● **Launched in:** The **Phase-I** was launched in **2023**, currently entering **Phase 2 in April 2025.**

● **Aim:** To deepen financial awareness among rural communities across India.

● **Objectives of Phase II:**

○ To enhance **financial awareness** and encourage **responsible money management practices among rural women** by adopting community-driven models.

- To foster **inclusive banking**, strengthen digital **literacy**, and **prevent financial frauds** through the involvement of local women influencers.
- The initiative is designed as a **program led by women for women** to create relatable and impactful learning experiences.
- **Key Features of Phase II**
 - It introduces **interactive and participatory training modules** to make learning more engaging.
 - It partners with **grassroots organisations** to maximize impact and ensure community involvement.
 - The program **emphasizes the importance of savings, safe investment practices, and fraud prevention.**
 - It also **focuses on enabling women and rural citizens** to use digital financial services confidently.

About IEPFA

- The **Investor Education and Protection Fund Authority (IEPFA)** was established by the **Government of India under the Ministry of Corporate Affairs.**
- **Mandate:** To **promote investor education, financial awareness, and investor protection.**
- It organizes **nationwide programs** and outreach activities to empower citizens with financial knowledge.
- It also works to safeguard citizens against fraudulent practices and to build a more financially resilient society.

RTE and Minority Educational Institutions

News- The Supreme Court has recently referred the issue of the applicability of the Right of Children to Free and Compulsory Education Act, 2009 (RTE Act) to minority educational institutions for reconsideration by a larger Bench headed by the Chief Justice of India.

This has revived a decade-long debate on the balance between the right of children to education (Article 21A) and the right of minorities to establish and administer educational institutions (Article 30(1)).

Background: Pramati Educational & Cultural Trust Case (2014)

- A five-judge Constitution Bench ruled that the *RTE Act could not be applied to minority institutions, whether aided or unaided.*
- **Reasoning-** Compulsory admission of non-minority children under Section 12(1)(c) (25% reservation for disadvantaged children) of RTE Act could dilute or destroy the “minority character” of these institutions.
- **Outcome-** Minority institutions were granted complete exemption from compliance with the RTE Act.

Recent developments

- A two-judge Bench (Justices Dipankar Datta and Manmohan), while hearing the *TET case (Anjuman Ishaat-e-Taleem Trust v. State of Maharashtra)*, questioned the correctness of the Pramati ruling.
- The Bench observed that exempting minority schools from the RTE Act may jeopardise children's fundamental right to quality education.

- It emphasised that *Articles 21A and 30(1) must co-exist* and that neither should be treated as an unqualified “trump card” over the other.

Relevant Constitutional Provisions

- **Article 21A** – Guarantees free and compulsory elementary education to children aged 6–14 years.
- **Article 30(1)** – Grants minorities the right to establish and administer educational institutions of their choice.
- **Article 15(5)** – Enables the state to make special provisions for socially and educationally backward classes, SCs, and STs in educational institutions, excluding minority institutions.

Court's Observations

- Implementation of the RTE Act does not erode minority rights under Article 30(1).
- Exemption of minority schools weakens inclusivity and fragments the vision of a common schooling system.
- The 25% quota under Section 12(1)(c) need not necessarily be filled by non-minority students; it *can include disadvantaged children from the minority community itself*.
- Blanket exemption has encouraged misuse, with several private schools seeking “minority status” to avoid RTE obligations.

About Right of Children to Free and Compulsory Education (RTE) Act, 2009

- It makes free and compulsory education a fundamental right for all children aged 6–14 years.
- It mandates 25% reservation in private unaided schools for children from disadvantaged groups.
- It sets minimum norms for pupil-teacher ratios, infrastructure, and teacher qualifications.
- It bans practices like capitation fees and corporal punishment.

Senna Invasion

News– Kerala has carried out India's first science-based, community-led eradication of *Senna spectabilis* in Wayanad.



Source- Downtoearth

About *Senna spectabilis*

- It is an *invasive tree species* that forms dense, sterile thickets. These thickets suppress native vegetation, alter soil chemistry, and reduce food availability for herbivores.
- The tree has a broad, spreading crown and can grow to a *height of 7–18 metres*.
- It *closely resembles Cassia fistula* (locally known as Kanikkonna), which is the *state flower of Kerala*.
- The species is native to the tropical regions of the Americas.
- According to the *IUCN Red List of Threatened Species*, it is *classified as Least Concern*.

Vikram-32

News: Union Minister Ashwini Vaishnaw unveiled the Vikram-32 processor at the Semicon India 2025 conference.

About Vikram-32



Figure 7. Source: TOI

designed by ISRO. It supports floating-point computations and high-level programming via the Ada language.

- **Space validation:** First batch successfully tested in space through the PSLV Orbital Experimental Module (POEM-4) during the PSLV-C60 mission.
- **Durability:** Designed to operate in extreme space conditions, with a temperature range of -55°C to $+125^{\circ}\text{C}$.

- It is India's first indigenously developed 32-bit processor for space applications.

- **Developed by:** Vikram Sarabhai Space Centre (VSSC), fabricated at ISRO Semiconductor Laboratory (SCL), Chandigarh.

- **Upgrade:** Vikram 32 (Vikram 3201) is an upgraded version of Vikram 1601, a 16-bit processor used in ISRO's launch vehicles since 2009.

- **Technology:** Based on a custom Instruction Set Architecture (ISA)

Exercise MAITREE-XIV

News: The 14th edition of the India–Thailand joint military exercise MAITREE-XIV began with a grand opening ceremony at the Joint Training Node (JTN) in Umroi, Meghalaya.

About Exercise MAITREE-XIV



- It is a military exercise between **India and Thailand**.
- **Started in:** Exercise MAITREE was instituted in **2006**.
- **Place:** The 2025 edition will be held at Joint Training Node (JTN), Umroi, Meghalaya.
- The exercise is scheduled to take place from **1st to 14th September 2025**.
- **Aim:** To enhance cooperation, interoperability, and mutual understanding between the Indian Army and the Royal Thai Army.
- **Participating Contingents:** The **Indian Army** is represented by a battalion of the **Madras Regiment**, comprising **120 personnel**.
 - The **Royal Thai Army** is represented by **53 personnel** from the **1st Infantry Battalion, 14th Infantry Brigade**.
- The joint exercise is centered on **company-level counter-terrorist operations in semi-urban terrain**, conducted under **Chapter VII of the United Nations Charter**.

Significance

- The 14th edition of Exercise MAITREE strengthens the **bilateral defence cooperation** between India and Thailand.
- It reflects the **shared commitment** of both armies towards promoting **peace, stability, and security** in the region.

Goods and Services Tax (GST) 2.0

News: The 56th GST Council has recommended changes in GST tax rates on goods and services, from 22 September 2025.

About Goods and Services Tax (GST) 2.0



Figure 8.Source – BS

- **Goods and Services Tax** is a comprehensive, multi-stage, **destination-based indirect tax** on goods and services.

- **Purpose:** Its primary purpose is to achieve “**One Nation, One Tax**” by reducing cascading taxes, simplifying compliance, and expanding the tax base.

- **Launch:** It was introduced on **1 July 2017** through the **101st Constitutional Amendment Act, 2016**.

- **Earlier structure**

- **Five slabs** existed at 0, 5, 12, 18

and 28 percent **with cess** on luxury and sin goods.

- **Exemptions:** Essential items such as **food grains, medicines and education** were exempt, while **petroleum, alcohol and electricity** remained **outside GST**.

New GST Rate Structure

- **Simplification:** Slabs are reduced to **two main rates plus a special rate**.
- **Main slabs:** **5 % and 18 %** apply on **most** goods and services.
- **Special 40 % rate:** Applies to **sin goods** and select **super-luxury items**.
- **Key reductions – A brief**
- **Daily-use items** like soap, shampoo, toothpaste, bicycles, and kitchenware **move to 5 percent**.
- **Agricultural goods:** Reduction of GST from **12% to 5%** on agricultural goods, such as tractors, agricultural, horticultural or forestry machinery for soil preparation or cultivation etc.
- **Cement** reduces from **28 percent to 18 percent**.
- **Small cars, motorcycles under 350cc, air conditioners, televisions, and dishwashers** shift to **18 percent**.
 - **Uniform rate of 18% on all auto parts** irrespective of their HS code; **Three-Wheelers** from **28% to 18%**.
- Staples such as **milk, paneer, rotis, chapatis, and parathas** are at **0 percent**.
- **33 Life-saving drugs and spectacles** are corrected to **0–5 percent**.
- To fix inverted duty, **man-made fibre, yarn, fertilizers, acids, and ammonia** reduce to **5 percent**.
- **Pan masala, gutkha, cigarettes, chewing tobacco, unmanufactured tobacco and bidi** continue at existing GST slabs.
- **Revenue impact:** The estimated loss is **₹48,000 crore**, expected to be **offset by higher compliance and buoyancy**.
- **Implementation timeline and exceptions:** Rate changes for **all goods except specified tobacco and bidi categories** take effect from **22 September 2025**.

About GST Council

- GST Council is an apex member committee to **modify, reconcile or to procure any law or regulation based on the context of goods and services tax** in India.
- It is created under **Article 279A**.
- The GST council is the **key decision-making body** that will take all important decisions regarding the GST.

- The GST Council **dictates tax rate, tax exemption, the due date of forms, tax laws, and tax deadlines**, keeping in mind special rates and provisions for some states.
- **Head:** The council is headed by the **Union Finance Minister**, who is assisted by **finance ministers of all the states of India**.

Majorana Particles

News: Scientists racing to build practical quantum computers are exploring particles like Majorana particles that are their own antiparticles to store and manipulate information.

About Majorana Particles

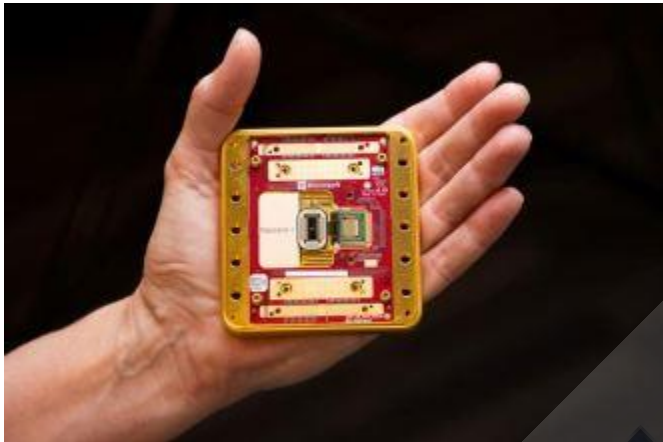


Figure 9. Source – TH

- It is a **fermion** that is **its own antiparticle**.
 - **Fermions** are **fundamental particles, or elementary particles**, which means that they have **no constituent particles**.
 - **Discovered by:** They were hypothesized by **Ettore Majorana in 1937**.
 - Unlike electrons or protons, which annihilate with their antimatter counterparts, **Majoranas are perfectly symmetric**.
 - The term is sometimes used in **opposition to Dirac fermion**, which describes **fermions** that are **not their own antiparticles**.
- **Specific Features**
 - **Self-symmetry:** A Majorana is a perfect mirror of itself, unlike electrons or protons.
 - **Quasiparticle realizations:** In specially designed materials, Majorana-like modes may emerge at the ends of tiny superconducting wires cooled near absolute zero under a magnetic field.
 - **Nonlocal encoding:** Two separated Majorana modes jointly define one qubit.
 - A local disturbance to one cannot by itself erase the encoded information.
 - **Application**
 - **Stabilizing qubits:** Nonlocal encoding offers a first line of defence against decoherence in quantum computers.
 - **Topological computation:** Logical operations can be implemented by braiding Majorana modes, with robustness set by braid topology.
 - **Efficiency gains:** The approach aims to protect qubits at the hardware level and reduce heavy quantum error-correction overhead compared with today's platforms.

Immigration and Foreigners (Exemption) Order, 2025

News- The Central Government has issued the Immigration and Foreigners (Exemption) Order, 2025, under the Immigration and Foreigners Act, 2025.

Key Highlights of the Order

- **Exemption for armed forces personnel-** Indian armed forces personnel on official duty, and their families traveling on government transport, are exempt from immigration requirements.
- **India–Nepal and India–Bhutan Borders**
 - Indian citizens entering via Nepal or Bhutan (land/air) are exempt.
 - Nepali and Bhutanese citizens are exempt when entering India through their borders or traveling elsewhere with a valid passport.
 - *Not applicable* to entries from China, Hong Kong, Macau, and Pakistan.
- **Tibetan refugees and minority communities**
 - Registered Tibetan refugees in India are exempt.
 - Persecuted minorities (Hindus, Sikhs, Buddhists, Jains, Parsis, Christians) from Afghanistan, Bangladesh, and Pakistan who entered before *31 Dec 2024* are exempt, regardless of travel document validity.
 - Sri Lankan Tamils who took refuge up to *9 Jan 2015* are also covered.
- **Foreign nationals with special status-** Exemptions apply to:
 - Holders of *diplomatic/official passports* under agreements.
 - Nationals from designated *visa-on-arrival* countries.
 - *Foreign military personnel* on naval warships for exercises, goodwill visits, bunkering, or disaster relief (unless notified otherwise).

National Institutional Ranking Framework (NIRF)

News: Union Education Minister released the **10th edition of the NIRF Rankings 2025** on September 4, 2025.

About National Institutional Ranking Framework (NIRF)



Figure 10. Source – NDTV

- The National Institutional Ranking Framework (NIRF) is a **government-approved methodology** for ranking institutions of **higher education** across India.
- **Released by:** Ministry of Education
- The NIRF was launched on **29 September 2015**.
- The **parameters** are **Teaching, Learning and Resources; Research and Professional Practices; Graduation Outcomes; Outreach and Inclusivity; and Perception**.
- **Methodology and Evolving Framework**
 - **Parameters:** Teaching, learning and resources; research and professional practice; graduation outcomes; inclusivity.
 - **Peer perception** carries **10%**
 - **Growth over time:** From **2016** (one category and three subject domains) to **2025**, NIRF has expanded to **nine categories** and **eight subject domains**.

Key Highlights of NIRF 2025

- **Top 100 (overall) composition:** In the overall category, the top 100 institutions are distributed as follows: 24 State universities; 22 private deemed universities; 19 IITs + IISc; 9 private universities; 8 NITs; 7 Central universities; 5 medical institutions; 4 IISERs; 1 college; and the Indian Agriculture Research Institute.

- **IIT Madras** ranked first overall for the seventh year in a row and remained the best engineering college for the tenth straight year.
- **IISc Bengaluru** topped the universities category for the tenth consecutive year and led the research institutions category for the fifth consecutive year.
- **IIM Ahmedabad** ranked first in management for the sixth consecutive year.
- **AIIMS New Delhi** led medical institutions for the eighth consecutive year and topped the dental category for the first time.

Operation Black Forest

News: Union Home Minister felicitates the CRPF, Chhattisgarh Police, DRG and Cobra jawans who successfully carried out 'Operation Black Forest' on Karreguttalu hill.

About Operation Black Forest



Figure 11. Source – NDTV

- It is a **military operation** conducted by **Indian security forces** against **Naxalite insurgents** in areas located between the states of **Chhattisgarh and Telangana**.
- The operation **began on 21 April 2025**.
- **Conducted by:** It was a **joint operation** of the **Central Reserve Police Force (CRPF)**, **Chhattisgarh Police**, **District Reserve Guard (DRG)**, and **Commando Battalion for Resolute Action (CoBRA)**
- It was the **biggest anti-Naxal action ever** conducted in the region.
- **Bigger Goal:** Operation Black Forest marks a significant leap towards the goal of **eliminating left-wing extremism from India by March 2026**.
- **Outcomes**
 - The joint forces succeeded in **destroying a major Naxal base camp**, including their material dumps and supply chains on **Karreguttalu hill**.
 - The security forces **neutralized 27 dreaded Maoists**, including **Nambala Keshav Rao**, alias **Basavaraju**, the **general secretary of CPI-Maoist**, topmost leader, and the **backbone** of the Naxal movement.
 - This was the **first time** in three decades of Bharat's battle against Naxalism that a **general secretary-ranked leader has been neutralized** by Indian forces.

Note

- The **Karreguttalu Hills** is located between the **borders of the states of Chhattisgarh and Telangana**.

Particularly Vulnerable Tribal Groups (PVTGs): Separate Enumeration

News– The Ministry of Tribal Affairs (MoTA) has asked the Registrar General and Census Commissioner of India (RGI) to count Particularly Vulnerable Tribal Groups (PVTGs) separately in the upcoming Census. It wants details on their households, population, and socio-economic conditions.

The Ministry says such data is crucial to ensure that schemes like the *Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan (PM JANMAN)* reach the most vulnerable communities effectively.

About Particularly Vulnerable Tribal Groups (PVTGs)

PVTGs are the most marginalised among Scheduled Tribes (STs). They are marked by:

- Declining or stagnant population
- Geographical isolation
- Pre-agrarian level of technology (hunting, gathering, shifting cultivation)
- Economic backwardness
- Very low literacy levels

This category was created after the *Dhebar Commission (1960–61)* pointed out that some tribal communities were far more vulnerable than others and required special attention.

How were they identified?

- During the *Fifth Five-Year Plan (1974–79)*, 52 groups were recognised as Primitive Tribal Groups (PTGs).
- In 2006, 23 more were added, bringing the total to 75 PVTGs.
- Today, these groups are spread across 18 States and 1 Union Territory (Andaman & Nicobar Islands).

Have PVTGs ever been counted separately?

- No. PVTGs have never been enumerated separately in any Census.
- They are usually merged under the broader Scheduled Tribe category.
- Out of 75 PVTGs, 40 are listed as 'single entry' tribes under Article 342 of the Constitution, meaning they are explicitly recognised in the notified ST list.
- In the 2011 Census, the Baigas of Madhya Pradesh were counted separately, but groups like Abujh Marias, Bharias, Hill Korbas, and Kamars were not. In 2013, Abujh Maria and Hill Korba were formally added to Chhattisgarh's ST list through legislation.
- By practice, the Registrar General of India (RGI) only publishes data for main STs, with sub-groups automatically included. This has prevented separate and focused data collection on PVTGs so far.

Why Separate Enumeration now?

1. For targeted welfare

- The PM JANMAN scheme (2023), with an allocation of Rs. 24,104 crore, aims to improve housing, health, education, and livelihoods for PVTGs in more than 200 districts.
- Without precise numbers, it becomes difficult to ensure that benefits actually reach the intended communities.

2. For reliable population estimates

- A Ministry of Tribal Affairs (MoTA) 2023 survey estimated the total PVTG population at 47.5 lakh.
 - Madhya Pradesh: 13.22 lakh (highest)

- Maharashtra: 6.7 lakh
- Andhra Pradesh: 5.18 lakh
- Many groups are extremely small:
 - Sentinelese (Andaman & Nicobar Islands): barely 15 individuals
 - Jarawas, Onges, Shompens, Raji, Kota, Birhor, Kamar, Korwa, Parhaiya, etc.: less than 1,000 each.

3. To address policy gaps

- Current schemes in health, education, and livelihoods are difficult to monitor without disaggregated data.
- Fresh enumeration would also help determine whether the existing classification of PVTGs still holds true, as some groups may have progressed while others remain trapped in vulnerability.

Immigration and Foreigners Act, 2025

News- The Government of India has recently notified various Rules and Orders under the Immigration and Foreigners Act, 2025, which came into effect on 1 September 2025.

About Immigration and Foreigners Act, 2025

Key Provisions of the Act

a) Possession of valid documents- All entrants into India are required to carry valid passports or travel documents. Foreign nationals must additionally hold valid visas unless specifically exempted under the Act or through special orders issued by the central government.

b) Entry and exit via notified Posts- Foreigners can legally enter or exit India only through designated immigration posts, which include *major airports, seaports, land border posts, and certain rail terminals*.

c) Powers of Immigration Officers- Immigration officers stationed at notified posts have the authority to validate or deny entry and exit, particularly on *national security grounds*. Their *decisions regarding admissibility are final*.

d) Registration and local control mechanism- Foreign nationals are required to register with designated Registration Officers. Local civil authorities, such as the *district Superintendent of Police (SP) or Deputy Commissioner of Police (DCP)*, oversee compliance. Additionally, a network of *Foreigners Regional Registration Officers (FRROs)* manages regional registration, permits, and monitoring.

e) Obligations of accommodation providers and institutions- Hotels, hostels, paying guest accommodations, religious institutions, and similar establishments must collect details of foreign guests, including OCI cardholders. They are required to submit electronically filled forms within 24 hours of both arrival and departure. Universities and hospitals are required to notify registration authorities about foreign students or patients, including *births and deaths within seven days*.

f) Control over public places and resorts- Civil authorities are empowered to restrict, regulate, or close establishments frequently visited by foreigners if they pose a threat to *security, law, or public order*. Such premises cannot relocate operations without prior permission.

g) Special permits for protected/restricted areas- Foreign nationals require special permits to access *protected, restricted, or prohibited areas*. Applications must follow procedures outlined through designated online portals or mobile applications.

For details on exempted categories, see the [Immigration and Foreigners \(Exemption\) Order, 2025](#).

Innovations Introduced in 2025

a) Digitalisation and electronic records– Mandatory online reporting by accommodation providers, hospitals, and universities creates a comprehensive database for enforcement, public health management, and citizenship-related decisions.

b) Graduated fines and compounding system– Infractions such as overstaying, non-registration, or unauthorised entry into protected areas *attract fines ranging from Rs 10,000 to Rs 5 lakh*. Lower fines, starting at Rs 50, apply to Tibetans, Mongolian Buddhist monks, and certain groups from *Pakistan, Bangladesh, and Afghanistan*.

c) Protections and appeals– The Rules provide mechanisms for appealing fines and penalties. *Exemptions are allowed in humanitarian or bona fide cases*, and compliance in good faith may mitigate penalties.

d) Centralisation and delegation– The Act empowers the central government to issue directions, delegate functions to states and Union Territories, and modify or cancel permissions as needed.

e) Elimination of local discretion– Exemptions and permits are *valid only if issued under central government orders*, removing prior ambiguities in local implementation.

Environment Auditors

News: The Environment Audit Rules, 2025, establish a new independent class of environment auditors to complement State Pollution Control Boards.

About Environment Auditors

- **What they are:** A newly instituted group of certified specialists or accredited entities responsible for inspection, verification, and auditing of projects against environmental laws and sustainability benchmarks.
- **Legal basis:** Established under the **Environment Audit Rules, 2025**.
- **Accreditation:** Certification and registration by the **Environment Audit Designated Agency (EADA)**.
- **Aim**
 - Bridge manpower and infrastructure deficits in CPCB, Regional Offices, and State PCBs/PCCs.
 - Promote **self-compliance** and accountability among project developers.
 - Ensure **greater transparency, accountability, and credibility** in monitoring, fostering stakeholder trust and sustainable environmental governance.
- **Function**
 - Conduct systematic audits of projects governed by environmental laws.
 - **Sample and analyse** emissions, effluents, and waste; verify self-reported data.
 - Check conformity with **environmental clearances** and **consents**; report non-compliance and **compute environmental compensation**.
 - Act as verifiers under **Green Credit Rules** (e.g., afforestation, sustainable water and waste management).

- Check compliance with **Ecomark Rules, 2024; E-Waste Rules, 2022; Plastic Waste Rules, 2016; Battery Waste Rules, 2022;** and rules/regulations under the **Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980** and **Wild Life (Protection) Act, 1972.**
- Provide independent inputs for **climate action** and **ESG ratings.**
- Support **Green Credit Registry, Ecomark certification, and CRZ compliance.**
- **Significance**
 - **Strengthens environmental governance** beyond government machinery.
 - **Reduces monitoring burden** on State/Central Boards.
 - Improves **coverage and effectiveness** of compliance across numerous projects and industries.
 - Builds **trust among stakeholders** through transparent and credible audits, promoting **sustainable environmental governance.**

Angikaar 2025

News: The Minister for Housing and Urban Affairs has launched “Angikaar 2025” in New Delhi on 4 September 2025.

About Angikaar 2025



Figure 12. Source – PIB

- “Angikaar 2025” is a **last-mile outreach campaign under PMAY-U 2.0.**
- It will run for a **period of two months** from 4th September 2025 to 31st October 2025 across 5,000+ Urban Local Bodies (ULBs) in the country.
- It will facilitate completion of remaining PMAY-U houses.
- PMAY-U 2.0, **launched in September 2024**, provides up to ₹50 lakh support to

one crore urban families.

- It reaffirms the Government’s commitment to bring welfare schemes closer to the people by **bridging the implementation gap.**
- It will reach out to the vulnerable sections of society to provide benefits of the housing scheme.
- **Objectives**
 - Create awareness of PMAY-U 2.0.
 - Fast-track application verification.
 - Expedite completion of sanctioned houses.
 - Inform stakeholders about the **Credit Risk Guarantee Fund Trust for Low Income Housing.**
 - Ensure last-mile delivery through mobilisation, targeted engagement, and convergence with other schemes.
 - Extend PM Surya Ghar: Muft Bijli Yojana benefits to PMAY-U beneficiaries.
 - Prioritise housing for Special Focus Group beneficiaries.
 - Reach vulnerable sections and bridge the implementation gap.
- **Features**
 - Door-to-door outreach, camps, loan melas, and cultural events for **Jan Bhagidari.**

- **PMAY-U Awas Diwas** will be celebrated on 17th September 2025 to mark the first year of launch of PMAY-U 2.0.
- **"PM Awas Mela – Shehri"** at district or municipal level in two phases: 17–27 September, and any day between 16–31 October 2025.
- Additional ULB-led ward/cluster/city events; flagship platform to showcase PMAY-U benefits and promote convergence.

Why Punjab Keeps Flooding

News: Punjab is experiencing one of the worst floods. The state government has declared all 23 districts as flood-hit.

Reasons behind Punjab Keeps Flooding

1. Punjab's Geography: Punjab has three big rivers (**Ravi, Beas, Sutlej**) and some small ones (Ghaggar & *choes*). In the monsoon, heavy rains make these rivers overflow. Punjab has **earthen walls (bundhs)** to stop floods, but they often break when the rain is too much.

2. Excessive Rainfall: In August, **very heavy rainfall in Himachal Pradesh caused the Beas River to swell**, with inflows of 50,000 to 55,000 cusecs, which flooded Kapurthala, Tarn Taran, Ferozepur, Fazilka, and Hoshiarpur.

- **By mid-August, the Ravi River also swelled because of rainfall in Himachal and Jammu & Kashmir.**
- At the same time, **southern Punjab's Malwa region received heavy rainfall**, which led to severe waterlogging in Ludhiana, Jalandhar, Ropar, Nawanshahr, and Moga.
- The IMD has reported that **Punjab, Himachal Pradesh, and Jammu & Kashmir have each recorded more than 45% above-normal rainfall this year**, significantly exceeding the seasonal average.

3. Role of Dams: Punjab's rivers are **controlled by three major dams: Bhakra on the Sutlej, Pong on the Beas, and Thein or Ranjit Sagar on the Ravi**. These dams store water for **irrigation & electricity**.

- When reservoirs fill beyond safe limits due to heavy rainfall, **dam authorities are compelled to release water to prevent overtopping**, which could lead to catastrophic consequences.
- The **Bhakra Beas Management Board (BBMB)** regulates storage and release **through a "rule curve,"** which is based on hydrological data and weather forecasts. However, during extreme rainfall, sudden releases become unavoidable.
- This year, **inflows into the Pong Dam were nearly 20% higher than in 2023**, marking an unprecedented rise. The **Bhakra Dam** too experienced very high inflows.

4. Weak Embankments and Illegal Mining: Punjab's dhussi bundhs, or earthen embankments are **often in poor condition and collapse** during heavy flooding. **Illegal sand mining has further weakened them.**

5. Governance Gaps: Punjab has long complained that the BBMB focuses more on **power generation and irrigation than on flood safety**. The problem lies in **poor coordination, lack of transparency in dam operations, failure to maintain a flood cushion and late warnings**.

Rajasthan's Coaching Centre Bill, 2025

News: Recently, the Rajasthan Assembly has passed a new Bill to regulate the coaching centre industry in the state to **create a healthier and more supportive environment for students**.

About Rajasthan's Coaching Centre Bill, 2025



Figure 13. Source – NDTV

- It was passed by the **Rajasthan Assembly on September 3, 2025.**

- It aims to **protect students' interests**, provide **career guidance**, ensure **psychological counselling**, and promote **holistic development** while preparing for competitive exams.

Provisions of the Bill

- **Establishment of Regulatory Authority:** The proposed law will be implemented by the **Rajasthan Coaching Centres (Control and Regulation) Authority**, which will include senior education officials, police representatives, a psychiatrist, and members representing coaching centres and parents.
 - At the district level, **committees will be formed with the district magistrate, superintendent of police, and chief medical and health officer as members.** These committees will be responsible for registering coaching centres, ensuring their compliance with the law, and establishing grievance redressal cells.
- **Fee control:** They will also **monitor various aspects of coaching centres**, such as fee structures, handling of complaints, and the conduct of teaching.
- **Compulsory registration:** All coaching centres will be required to apply for registration within **three months of the Act coming into effect**
- A centre must provide at least one sq. m of space per student and appoint tutors with a minimum of a graduate degree
- **Prohibition on misleading advertisements:** Coaching must refrain from making misleading promises or guarantees about ranks or marks.
- **Counselling System:** Coaching centres must have a **counselling system in place and maintain a website with updated information about tutors' qualifications, hostel facilities, fee policies, and success rates.**
- **Maximum class time limit:** Both students and teachers must be given weekly days off, and classes cannot exceed five hours a day.
- **Penalty:** Any violation of these provisions will invite a fine of ₹50,000 for the first offence and ₹2 lakh for the second. Repeated violations could lead to the cancellation of registration.
 - In comparison, an earlier draft of the Bill had prescribed higher penalties of ₹2 lakh and ₹5 lakh for the first and second offences.

Beas River

News: Amid unprecedented rainfall in its catchment, the Beas in Himachal Pradesh recorded its highest-ever inflow of 11.70 BCM between July 1 and September 5.

About Beas River

Source – NewsArenaIndia

- Earlier it was known as **Vipas** (“Unfettered river”).
- **Origin: Beas Kund**, near **Rohtang Pass** (at a height of 4,062 m above sea level) in **Himachal Pradesh**, on the southern face of the pass in the **Kullu region**.
- It is an important river of the **Indus system** in northwestern India.
- **State covered:** Himachal Pradesh, Punjab.
- It forms the renowned **Kullu** and **Kangra valleys**.
- It form a **gorge at Kati and Largi in the Dhauladhar range**.
- **Length:** Approximately **470 km** (traverses about 470 km before **meeting the Sutlej at Harike, Punjab**).
- **Tributary:** The major tributaries of the Beas River are **Bain, Banganga, Luni, and Uhal, along with Banner, Chakki, Gaj, Harla, Mamuni, Parvati, Patlikuhlal, Sainj, Suketi, and Tirthan**.
- **Final discharge:** To the **Arabian Sea via the Indus**.
- **Major dams**
 - **Pong (Beas) Dam (also known as Maharana Pratap Sagar)**— earth-fill embankment dam in **Kangra**, Himachal Pradesh.
 - **Pandoh Dam** – on the Beas River.

Taliban Sanctions Committee (TSC)

News: Taliban foreign minister cancelled a planned India visit after failing to secure a UN Security Council travel-ban waiver.

About Taliban Sanctions Committee (TSC)

Source – ET

- It is a subsidiary body of the **UN Security Council** focused on **Taliban-linked individuals and entities**.
- **Established in:** It was established in **2011 by Resolution 1988** after the split from the **1267 regime**.
- **It comprises all 15 Security Council members** and decides by consensus.
- **Current Chair** (till 31 December 2025): H.E. Mr. Asim Aftikhar Ahmad (Pakistan); Vice-Chairs for 2025: Guyana and the Russian Federation.
- **Supported by** the Analytical Support and Sanctions Monitoring Team.
- **Prepares** annual reports, has Guidelines, and announces meetings in the UN Journal.
- **Objectives**
 - Ensure compliance with **travel bans, arms embargoes, and asset freezes** against Taliban-affiliated actors who threaten peace in Afghanistan.
 - Oversee implementation of **sanctions** and designate individuals and entities meeting listing criteria.
 - Consider and decide on **exemption** requests, delisting, and periodic reviews of listings.
 - Examine Monitoring Team **reports** and report to the Security Council; conduct outreach.
- **Key feature**
 - **List-based regime** covering about 130 individuals and entities.
 - **Chair exercises procedural control**, including agenda-setting, consultations, and recommendations.
 - **Consensus decision-making limits unilateral action**.
 - **No investigative or enforcement powers**; relies on state cooperation for implementation.

Functional Genomics

News: Personalised medicine customises cancer treatment based on genes, but tests can be unclear. Functional genomics helps understand genes better and guide treatment. It is slowly spreading in Africa despite high costs and limited resources.

About Functional Genomics

Source: ebi.ac

- Functional genomics is the **study of the physiological and biochemical effects of gene functions and interactions**, emphasising how genes impact metabolite levels, which are more directly linked to the phenotype than DNA, RNA, or proteins.
- It **focuses on understanding how individual components of a biological system interact to produce specific phenotypes**.
Note: Phenotype refers to an individual's observable traits, such as height, eye color and blood type. A person's phenotype is determined by both their genomic makeup (genotype) and environmental factors.
- **Scope:** Unlike classical genetics, **functional genomics often analyzes multiple genes or genomic regions simultaneously ("genome-wide" approach)**.
- **Aim:** To narrow down **targets for detailed analysis and identify candidate genes or regions** relevant to specific traits or diseases.
- **Focus Areas:** To **examine the dynamic expression and function of gene products in specific contexts**, such as developmental stages, tissues, or disease conditions.
- **Levels of Analysis:** Functional genomics can be studied at multiple molecular levels:
 - **DNA level:** Genomics and epigenomics – study of the genome sequence and regulatory modifications.
 - **RNA level:** Transcriptomics – study of gene expression patterns.
 - **Protein level:** Proteomics – study of proteins and their functions.
 - **Metabolite level:** Metabolomics – study of metabolites and metabolic pathways.
- By combining transcriptomics, proteomics, and metabolomics data, **researchers aim to build a comprehensive model of the biological system**.
- Integrated data **helps reveal how genes, proteins, and metabolites work together to generate specific phenotypes**.
- **Use:**
 - To **use current knowledge of gene function to create predictive models** connecting genotype to phenotype.
 - It **provides insights for understanding normal biology, disease mechanisms, and potential therapeutic targets**.

Self-Respect Movement

News: Oxford conference commemorates the centenary of the Self-Respect Movement, highlighting Periyar's worldwide impact.

About the Self-Respect Movement

Source: Wallpaper Cave

- It was a social reform movement launched in **1925** by **E.V. Ramasamy (Periyar) in Tamil Nadu**.
- **Objective:** The main objectives of the movement were:
 - **Annihilation of Caste System:** Challenged the caste hierarchy and Brahmanical supremacy.

- **Promotion of Rationalism:** Encouraged logical reasoning over blind faith and superstitions.
 - **Gender Equality:** Advocated for women's rights, including education and public participation.
 - **Inter-caste Marriages:** Encouraged marriages across castes to break societal barriers.
 - **Dravidian Identity:** Promoted a distinct Dravidian identity against Aryan cultural domination
- It advocated **rationalism and the rejection of superstitions** supporting social hierarchies.
 - The Self-Respect Movement **mainly operated in the Tamil districts of India** and **primarily mobilized low-status groups** such as Vanniya Kula Kshatriyas and untouchables.
 - The movement **actively involved women and youth**, including both illiterate and semi-educated individuals.
 - The Tamil weekly **Kudi Arasu**, founded in **1924**, became the official publication of the Self-Respect Movement and served as its primary propaganda tool.
 - Periyar was inspired by anti-caste movements led by **Jyotirao Phule and B.R. Ambedkar** in other parts of India.
 - In 1925, Periyar left the Indian National Congress to establish the Self-Respect Movement, focusing specifically on social equality and human dignity.
 - The movement **actively opposed the Devdasi system, caste-based discrimination, and the prohibition on widow remarriage.**
 - In **February 1929**, Periyar **organized the first provincial Self-Respect Movement conference in Chengalpattu**, which focused significantly on women's issues and was presided over by W.P.A. Soundara Pandian.
 - Female leaders like **Veeramal and Annai Meenanmbal** **actively contributed to the movement** by seeking justice for Dalit women and promoting gender equality
 - The Self-Respect Movement laid the foundation for the **Dravidian Movement**, which later led to the formation of political parties such as the **Dravida Munnetra Kazhagam (DMK)** and the **All India Anna Dravida Munnetra Kazhagam (AIADMK).**

Beas River

News: Amid unprecedented rainfall in its catchment, the Beas in Himachal Pradesh recorded its highest-ever inflow of 11.70 BCM between July 1 and September 5.

About Beas River



Figure 14. Source – NewsArenalIndia

- Earlier it was known as **Vipas** (“Unfettered river”).
- **Origin:** **Beas Kund**, near **Rohtang Pass** (at a height of 4,062 m above sea level) in **Himachal Pradesh**, on the southern face of the pass in the **Kullu region**.
- It is an important river of the **Indus system** in northwestern India.
- **State covered:** Himachal Pradesh, Punjab.
- It forms the renowned **Kullu** and **Kangra valleys**.
- It forms a **gorge at Kati and Lari in the Dhauladhar range**.
- **Length:** Approximately **470 km** (traverses about 470 km before **meeting the Sutlej at Harike, Punjab**).
- **Tributary:** The major tributaries of the Beas River are **Bain, Banganga, Luni, and Uhal, along with Banner, Chakki, Gaj, Harla, Mamuni, Parvati, Patlikuhlal, Sainj, Suketi, and Tirthan**.
- **Final discharge:** To the **Arabian Sea via the Indus**.
- **Major dams**
 - **Pong (Beas) Dam (also known as Maharana Pratap Sagar)**— earth-fill embankment dam in **Kangra, Himachal Pradesh**.
 - **Pandoh Dam** – on the Beas River.

Taliban Sanctions Committee (TSC)

News: Taliban foreign minister cancelled a planned India visit after failing to secure a UN Security Council travel-ban waiver.

About Taliban Sanctions Committee (TSC)



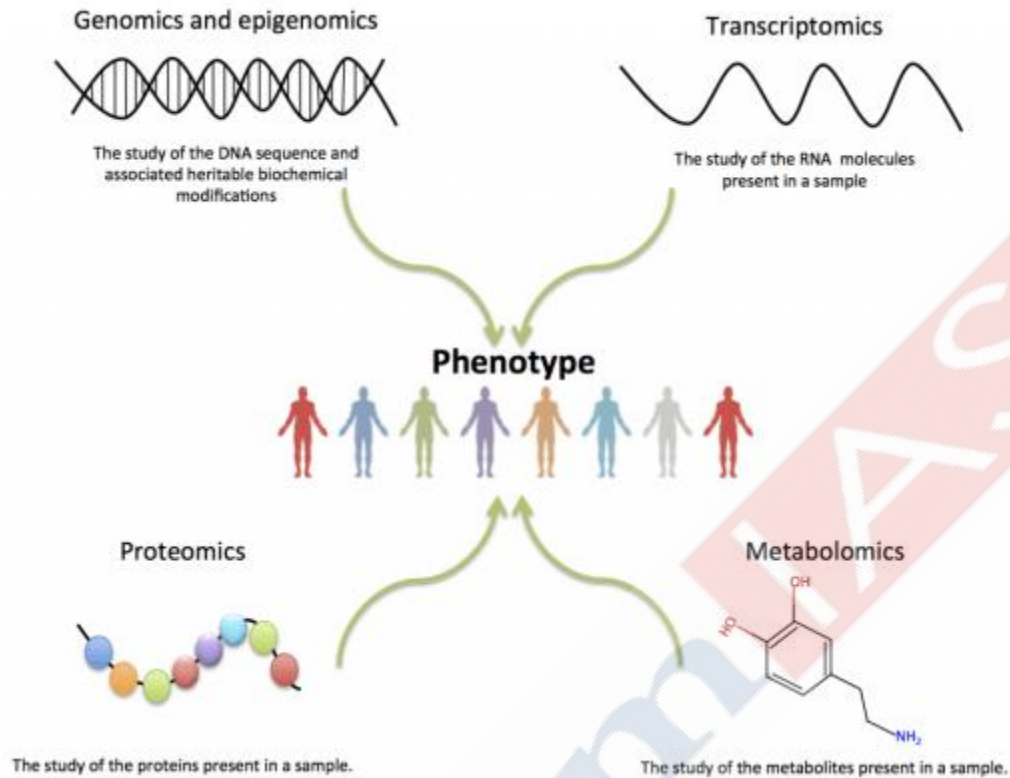
Source – ET

- It is a subsidiary body of the **UN Security Council** focused on **Taliban-linked individuals and entities**.
- **Established in:** It was established in **2011 by Resolution 1988** after the split from the **1267 regime**.
- **It comprises all 15 Security Council members** and decides by consensus.
- **Current Chair** (till 31 December 2025): H.E. Mr. Asim Aftikhar Ahmad (Pakistan); Vice-Chairs for 2025: Guyana and the Russian Federation.
- **Supported by** the Analytical Support and Sanctions Monitoring Team.
- **Prepares** annual reports, has Guidelines, and announces meetings in the UN Journal.
- **Objectives**
 - Ensure compliance with **travel bans, arms embargoes, and asset freezes** against Taliban-affiliated actors who threaten peace in Afghanistan.
 - Oversee implementation of **sanctions** and designate individuals and entities meeting listing criteria.
 - Consider and decide on **exemption** requests, delisting, and periodic reviews of listings.
 - Examine Monitoring Team **reports** and report to the Security Council; conduct outreach.
- **Key feature**
 - **List-based regime** covering about 130 individuals and entities.
 - **Chair exercises procedural control**, including agenda-setting, consultations, and recommendations.
 - **Consensus decision-making limits unilateral action**.
 - **No investigative or enforcement powers**; relies on state cooperation for implementation.

Functional Genomics

News: Personalised medicine customises cancer treatment based on genes, but tests can be unclear. Functional genomics helps understand genes better and guide treatment. It is slowly spreading in Africa despite high costs and limited resources.

About Functional Genomics



Source: ebi.ac

- Functional genomics is the **study of the physiological and biochemical effects of gene functions and interactions**, emphasising how genes impact metabolite levels, which are more directly linked to the phenotype than DNA, RNA, or proteins.
- It **focuses on understanding how individual components of a biological system interact to produce specific phenotypes**.
Note: Phenotype refers to an individual's observable traits, such as height, eye color and blood type. A person's phenotype is determined by both their genomic makeup (genotype) and environmental factors.
- **Scope:** Unlike classical genetics, **functional genomics often analyzes multiple genes or genomic regions simultaneously ("genome-wide" approach)**.
- **Aim:** To narrow down **targets for detailed analysis and identify candidate genes or regions** relevant to specific traits or diseases.
- **Focus Areas:** To **examine the dynamic expression and function of gene products in specific contexts**, such as developmental stages, tissues, or disease conditions.
- **Levels of Analysis:** Functional genomics can be studied at multiple molecular levels:
 - **DNA level:** Genomics and epigenomics – study of the genome sequence and regulatory modifications.
 - **RNA level:** Transcriptomics – study of gene expression patterns.
 - **Protein level:** Proteomics – study of proteins and their functions.
 - **Metabolite level:** Metabolomics – study of metabolites and metabolic pathways.
- By combining transcriptomics, proteomics, and metabolomics data, **researchers aim to build a comprehensive model of the biological system**.
- Integrated data **helps reveal how genes, proteins, and metabolites work together to generate specific phenotypes**.

- Use:
 - To **use current knowledge of gene function to create predictive models** connecting genotype to phenotype.
 - It **provides insights for understanding normal biology, disease mechanisms, and potential therapeutic targets.**

Self-Respect Movement

News: Oxford conference commemorates the centenary of the Self-Respect Movement, highlighting Periyar's worldwide impact.

About the Self-Respect Movement

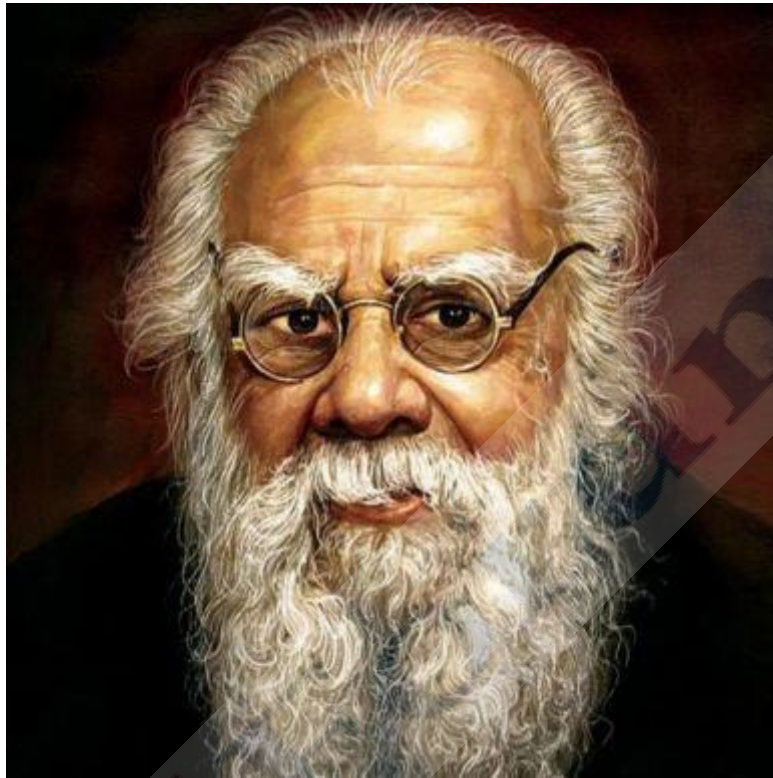


Figure 15. Source: Wallpaper Cave

- It was a social reform movement launched in **1925** by **E.V. Ramasamy (Periyar)** in **Tamil Nadu**.
- **Objective:** The main objectives of the movement were:
 - **Annihilation of Caste System:** Challenged the caste hierarchy and Brahmanical supremacy.
 - **Promotion of Rationalism:** Encouraged logical reasoning over blind faith and superstitions.
 - **Gender Equality:** Advocated for women's rights, including education and public participation.
 - **Inter-caste Marriages:** Encouraged marriages across castes to break societal barriers.
 - **Dravidian Identity:** Promoted a distinct Dravidian identity against Aryan cultural domination
- It advocated **rationalism and the rejection of superstitions** supporting social hierarchies.
- The Self-Respect Movement **mainly operated in the Tamil districts of India** and **primarily mobilized low-status groups** such as Vanniya Kula Kshatriyas and untouchables.
- The movement **actively involved women and youth**, including both illiterate and semi-educated individuals.
- The Tamil weekly **Kudi Arasu**, founded in **1924**, became the official publication of the Self-Respect Movement and served as its primary propaganda tool.
- Periyar was inspired by anti-caste movements led by **Jyotirao Phule** and **B.R. Ambedkar** in other parts of India.
- In 1925, Periyar left the Indian National Congress to establish the Self-Respect Movement, focusing specifically on social equality and human dignity.

- The movement **actively opposed the Devdasi system, caste-based discrimination, and the prohibition on widow remarriage.**
- In **February 1929**, Periyar **organized the first provincial Self-Respect Movement conference in Chengalpattu**, which focused significantly on women's issues and was presided over by W.P.A. Soundara Pandian.
- Female leaders like **Veeramal and Annai Meenanmbal** **actively contributed to the movement** by seeking justice for Dalit women and promoting gender equality
- The Self-Respect Movement laid the foundation for the **Dravidian Movement**, which later led to the formation of political parties such as the **Dravida Munnetra Kazhagam (DMK)** and the **All India Anna Dravida Munnetra Kazhagam (AIADMK)**.

Account Aggregator

News: The government announced that 11 crore users had linked financial information as of September 5, 2025, enabling secure, consent-based data sharing across institutions.

About Account Aggregator

- An Account Aggregator (AA) is an RBI-regulated NBFC-AA.
- It enables secure, real-time, consent-based sharing of financial information between institutions.
- It acts as an intermediary between Financial Information Providers (FIPs) and Financial Information Users (FIUs).
- AAs do not store or process data; they facilitate encrypted transfer based on a consent layer.
- Users can choose among multiple AAs. Examples include CAMS FinServ and PhonePe AA.

How it work?

- Users link their bank accounts to an AA.
- They give granular consent to share specific data with an FIU (e.g., a lender or wealth manager).
- The AA fetches the requested data from the relevant FIP (e.g., a bank) and securely delivers it to the FIU.
- Registration is voluntary. Users select which accounts to link, can reject requests, and can revoke ongoing consents at any time. The access duration is shown at the time of consent.
- One AA registration works across banks on the network. Apps (e.g., Finvu, OneMoney, CAMS Finserv, NADL) are available; some AAs may charge users, others may charge institutions.

How is Account Aggregator different to Aadhaar eKYC data sharing, credit bureau data sharing, and platforms like CKYC?

- Aadhaar eKYC and CKYC only allow sharing of four 'identity' data fields for KYC purposes (eg name, address, gender, etc).
- Similarly, credit bureau data only shows loan history and/or a credit score.
- The Account Aggregator network allows sharing of transaction data or bank statements from savings/deposit/current accounts.

Significance of Account Aggregator

- Replaces physical, notarised, or password-based data sharing with a simple, mobile, consent-driven process.
- End-to-end encryption and digital signatures secure data; AAs cannot view or aggregate personal data.

- Improves access to loans by providing tamper-proof data quickly and cheaply, speeding evaluation.
- Enhances money management by enabling secure consolidation of data stored across locations.
- May enable loans without physical collateral by sharing trusted information (e.g., GST or GeM cash flows).

Stakeholders and Adoption

- **FIPs:** Banks, mutual funds, insurers, etc.
- **FIUs:** Lenders, wealth managers, insurers, etc.
- **AAs:** Licensed entities that route encrypted data.
- 112 institutions operate as both FIPs and FIUs; 56 are only FIPs; 410 are only FIUs, showcasing wider adoption across the financial spectrum.

Unified Consent Infrastructure (DPDP Act)

- The DPDP Act, 2023 introduces Consent Managers (CMs) for consent collection, withdrawal, lifecycle management, and secure sharing.
- Aligning AA and CM frameworks avoids duplication, increases efficiency, promotes innovation, and strengthens Digital Public Infrastructure.

Blood Moon

News: A rare Blood Moon appeared on September 7, 2025, longest since 2022, widely visible across Asia and Europe.

About Blood Moon



Figure 16. Source – HT

- A Blood Moon is the red glow of the Moon during a total lunar eclipse. It occurs at the full moon phase when Earth's shadow covers the Moon.
- **Occurring mechanism**
 - The Sun, Earth, and Moon align, with Earth between the Sun and the Moon.
 - The Moon enters Earth's umbra, blocking direct sunlight.
 - Sunlight reaching the Moon is filtered through Earth's atmosphere: shorter blue wavelengths scatter away, while longer red wavelengths bend toward the Moon, creating the reddish hue.

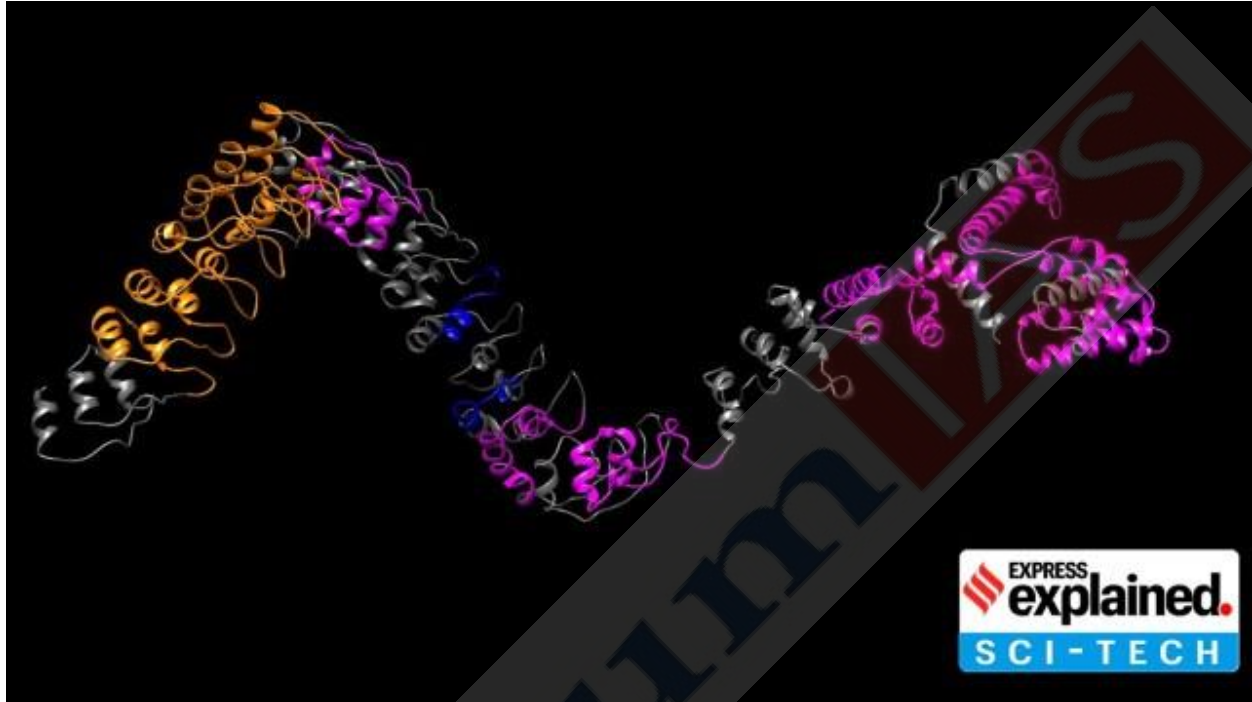
About Rayleigh Scattering

- Explained by John **William Strutt (Lord Rayleigh)**.
- When light interacts with particles smaller than its wavelength, scattered intensity is inversely proportional to wavelength.
- Blue light scatters more strongly, which makes the sky appear blue.
- During an eclipse, this scattering removes blue light, letting red light pass through Earth's atmosphere to illuminate the Moon.

Protein Language Model (pLM)

News: Recently, researchers have tried to shed light on the inner workings of the language models that predict the structure and function of proteins by using Protein Language Model (pLM).

About Protein Language Model (pLM)



- A **Protein Language Model (pLM)** is a special type of artificial intelligence program designed to study proteins.
- It works like ChatGPT or Google Translate, but instead of human language, it processes **protein sequences made of amino acids**.
- The model treats **amino acids as “words”** and their sequence as a “sentence” to understand biological information.

How Do Protein Language Models Work?

- pLMs are **trained on huge collections of protein sequences from various organisms**.
- During training, **the model learns patterns** about how amino acids appear together.
- It understands the “**grammar**” and “**syntax**” of protein sequences by learning rules without being explicitly told.
- **Example:** The model can predict a missing amino acid in a sequence, just like language models predict the next word in a sentence.
- This **helps the model learn how sequences relate to protein structure and function**.

Predicting Protein Structure and Function

- A key use of pLMs is predicting the **3D structure of a protein from its amino acid sequence**. Protein structure is important because small changes can make a protein inactive or harmful.
- The model can **also predict a protein’s stability**, how it binds to other molecules, and its role in the cell.
- This helps scientists understand **how natural proteins work and the effects of mutations**.
- pLMs can design **new proteins with specific properties not found in nature**.

- Scientists provide the desired function, and the model suggests new amino acid sequences to achieve it.
- **Example applications:**
 - Designing enzymes to break down plastic waste.
 - Creating proteins to convert plant materials into biofuel.
 - Developing therapeutic proteins to treat diseases.
- Designed proteins are then tested in laboratories to check their function.

Impact on Medicine and Biotechnology

- pLMs are changing medicine and biotechnology by:
 - Speeding up **drug discovery**: Helping design proteins that bind to disease targets or improve existing drugs.
 - Supporting **personalized medicine**: Helping understand how a person's genetic variations affect protein function.
 - Advancing **industrial biotechnology**: Designing better enzymes for manufacturing, sustainable materials, and advanced diagnostic tools.
- These innovations help scientists develop new medicines, improve industrial processes, and understand diseases faster.

Bhupen Hazarika

News: Recently, Prime Minister Narendra Modi paid tribute to Bharat Ratna Dr. Bhupen Hazarika on his birth anniversary.

About Bhupen Hazarika



- Bhupen Hazarika was a **cultural icon from Assam and Northeast India**.
- He was born in 1926 in Sadiya, Assam.
- He was a **singer, lyricist, musician, filmmaker, and cultural activist**.
- He is popularly known as the “**Bard of Brahmaputra**” and “**Sudhakantho**” (Pure Voice).
- He received the **Bharat Ratna** posthumously, fulfilling a long-standing demand from his fans and cultural community.
- The award recognizes his **contribution to music, culture, and society**.
- He also received many prestigious awards before: **Sangeet Natak Akademi Award, Padma Shri, Padma Bhushan, Posthumous Padma Vibhushan and Dada Saheb Phalke Award (1992)**.
- His songs and lyrics were in **Assamese, Bengali, Hindi, and other languages**.
- Focused on important themes: **Internationalism, Peace and equality, Unity across religions and languages and struggles of the working class**
- He used his art to support **marginalized communities** and promote **social reform**.

- His famous song “**Manuhe Manuhar Babe**” (**For Man**) expresses humanistic values: “If man would not think for man with a little sympathy, who will?”
- He also composed music for the Hindi film **Rudali**, which brought him fame all over India.
- Bhupen Hazarika is remembered as a **humanitarian who worshipped humanity**.
- He remains an inspiration for promoting **secularism, equality, and social justice** through music and culture.

National Annual Report & Index on Women's Safety (NARI) 2025

News: The National Commission for Women released the **National Annual Report & Index on Women's Safety (NARI) 2025** on **August 28**, based on a survey of **12,770 women across 31 cities**.

About National Annual Report & Index on Women's Safety (NARI) 2025

- NARI 2025 is a **survey-based national safety index** that documents lived experiences, unreported harassment, and perceptions of safety beyond official crime data.
- It assigns a **national safety score of 65%** and classifies cities as “**much above**,” “**above**,” “**below**,” or “**much below**” this benchmark.
- The report is the **first such national safety index**, released by the **NCW** and **ideated and funded by Pvalue Analytics**.

Key Highlights

Perceptions of safety

- Six in ten women felt safe in their city, while **40%** considered themselves “**not so safe**” or “**unsafe**.”
- Safety perceptions decline sharply at night; **educational institutions are 86% safe in daylight**, with notable drops off-campus or after dark.

City rankings and patterns

- **Safest cities:** Kohima, Visakhapatnam, Bhubaneswar, Aizawl, Gangtok, Itanagar, and Mumbai.
- **Lowest ranked:** Patna, Jaipur, Faridabad, Delhi, Kolkata, Srinagar, and Ranchi; **Faridabad ranked 27th** and **Delhi 28th**.
- **Higher-ranked cities** align with **gender equity, civic participation, policing, and women-friendly infrastructure**.
- **lower-ranked cities** reflect **weak institutional responsiveness, patriarchal norms, and infrastructure gaps**.

Exercise ZAPAD 2025

News: The multilateral joint military exercise ZAPAD 2025 is scheduled to be conducted from 10 to 16 September 2025.

About Exercise ZAPAD 2025



Source: PIB

- It is to be conducted at the **Mulino Training Ground, Nizhniy, Russia.**
- **Aim:** The exercise is designed to **enhance military cooperation, improve interoperability, and provide a platform for participating armies to exchange tactics, techniques, and procedures.**
- **Participation:** An Indian Armed Forces contingent comprising a total of 65 personnel has departed for the exercise.
- The Indian Army contingent is **led by a battalion of the KUMAON Regiment**, along with troops from other arms and services.
- **Objectives of the Exercise:** The main objectives of Exercise ZAPAD 2025 are:
 - To enhance military cooperation between participating nations.
 - To improve interoperability among multinational forces.
 - To exchange tactics, techniques, and procedures, especially in the areas of conventional warfare and counter-terrorism operations.
- **Key Focus Areas:** The exercise will focus on joint company-level operations conducted in open and plain terrain.
 - The participating troops will undertake Joint operational planning, tactical drills to simulate battlefield scenarios and special arms skills exercises to sharpen combat proficiency.
- **Benefits of Participation:** Participation in Exercise ZAPAD 2025 offers several benefits for India:
 - It provides a valuable opportunity to hone joint operational capabilities.
 - It facilitates the integration of emerging technologies into combat practices.
 - It helps troops gain experience operating in a multinational and multi-service combat environment.
- **Strategic Importance:** Exercise ZAPAD 2025 is expected to:
 - Further strengthen defense cooperation between India and Russia.
 - Reinforce the spirit of collaboration and mutual trust.
 - Foster camaraderie and mutual understanding among the armed forces of participating nations.

Langkhun / Lankhong Festival

News: Tiwa tribesmen celebrate Langkhun festival in Umsowai village in Karbi Anglong district of Assam.

About Langkhun / Lankhong Festival



Figure 17. Source – Sentinel

- During this harvest festival, the **Tiwa community** presents sacred offerings to **Ramsa Devota** and other deities, **seeking protection of their paddy from pests and an abundant yield.**

- They also **pray for the prosperity and good health of their families and the entire village**, asking for safeguarding from misfortune and disease.

- **Region and Tribes:**

- The **Tiwa people**, also called **Lalung**, are a **Tibeto-Burmese group** mainly in Assam, Meghalaya, Arunachal Pradesh, Manipur, and Nagaland, with presence in Bangladesh and Myanmar.

- In Assam, the community is **recognized as a Scheduled Tribe** and follows traditional agriculture, including jhum or shifting cultivation.

- **Time of celebration:** The festival features bamboo worship over four days and is held variably between October and December.
- **Significance.**
 - Langkhun marks an important seasonal transition for the Tiwa, reflecting their agrarian roots and strong ties with
 - The festival fosters communal harmony, bringing together people from nearby villages and dignitaries for collective worship and joy.
- **Other festivals of the Tiwa tribes are:** Three Pis(Bihu), Borot utsav, Sogra phuja, Wanchuwa, Jonbeel Mela, Kabla, and Yangli Phuja.

EnteroMix Cancer Vaccine

News: The Russian Federal Medical and Biological Agency (FMBA) announced that the EnteroMix cancer vaccine is now ready for clinical use.

About EnteroMix Cancer Vaccine



Business Standard

- The EnteroMix cancer vaccine was developed by the **National Medical Research Radiology Centre (NMRRC)**, which operates under the Ministry of Health of Russia.
- EnteroMix cancer vaccine is built on **mRNA technology**. Unlike traditional vaccines that use weakened or inactivated viruses, **mRNA vaccines deliver a set of genetic instructions that teach the body's cells to produce a specific antigen**.
- **In the context of cancer treatment**, these antigens appear on the surface of tumor cells. Once the immune system is trained to recognize these tumor-specific antigens, it can produce antibodies and immune cells that target and destroy cancer cells while sparing healthy tissue.
- **Mechanism of action:** EnteroMix operates by using a combination of four harmless viruses.
 - These viruses are designed to target and destroy cancer cells while simultaneously activating the body's immune defenses.
 - This dual approach helps slow tumor progression and, in some cases, completely eliminate tumors.
- One of the **unique advantages of the EnteroMix vaccine is its personalization**.
 - Each patient's vaccine is customized based on the specific antigens present in their tumor cells.
 - This allows the immune system to be trained to recognize multiple tumor antigens simultaneously.
- Unlike **traditional preventive vaccines given to healthy individuals**, **mRNA cancer vaccines are designed for patients** already living with cancer, aiming to treat existing tumors rather than prevent disease.

Global Context of Cancer Vaccine Development

- The UK's National Health Service (NHS), in partnership with BioNTech, **launched the Cancer Vaccine Launch Pad in 2023**, aiming to accelerate personalized mRNA cancer vaccine clinical trials.
- In the United States, the Food and Drug Administration (FDA) **has approved only one cancer vaccine to date—Sipuleucel-T for prostate cancer in 2010**—which extended survival by around four months.

- Currently, **more than 120 cancer vaccine clinical trials are underway globally**, focusing on lung, breast, prostate, melanoma, pancreatic, and brain cancers.

Small Satellite Launch Vehicles (SSLVs)

News: On September 10, 2025, ISRO, NSIL, IN-SPaCe, and HAL signed India's 100th technology transfer agreement to enable HAL to independently produce Small Satellite Launch Vehicles (SSLVs).

About ISRO Signed 100th Technology Transfer with HAL for SSLV Production

- The agreement, **facilitated by IN-SPaCe**, formalizes SSLV technology transfer from ISRO to HAL over 24 months, with training and technical support throughout the period.
- **ISRO will guide HAL** on preparedness-to-flight, covering commercial processes and technology integration, culminating in two missions under the agreement.
- The initiative **advances space-sector reforms, strengthens India's industrial ecosystem**, and supports commercial launch capabilities for the global small-satellite market.

Objectives

- **Enable HAL to independently produce SSLVs** through complete technology transfer within 24 months.
- Build capability through training, workforce preparation, and ISRO's technical guidance up to flight readiness.
- **Commercialise SSLV to meet domestic and international demand** and capture the growing global small-satellite market.
- Strengthen India's space technology and commercial launch capacity while **fostering a self-reliant, cost-competitive ecosystem**.

About SSLV

- **Engines and Propulsion:** SSLV is a **three-stage, all-solid launch vehicle** and a liquid-based **Velocity Trimming Module (VTM)** as the terminal stage..
- **Payload Capacity:** Carry up to 500 kg payloads into Low Earth Orbit.
- **Developed by:** SSLV was developed by the Indian Space Research Organisation (ISRO).
- **Launch operations can be conducted from** Sriharikota for inclined orbits and from the upcoming Kulasekarapattinam site for polar orbits.

Swachh Vayu Survekshan 2025

News: Indore topped Swachh Vayu Survekshan (SVS) 2025 for million-plus cities under NCAP, as announced by the Union Environment Minister.

About Swachh Vayu Survekshan 2025

- SVS is an annual survey conducted by the Ministry of Environment, Forest and Climate Change under the National Clean Air Programme (NCAP).
- It is a rigorous, multi-tiered evaluation based on comprehensive due diligence under NCAP.
- It covers 130 NCAP cities each year to promote healthy competition and accelerate actions to improve air quality.
- It promotes healthy competition and faster action to improve air quality.

- The survey assesses eight areas, including road-dust control, solid-waste management, vehicular and industrial emissions, construction and demolition waste handling, public awareness, and particulate-matter improvements.

Key Highlight

- **Category-wise rankings:**
 - **Million-plus cities:** Indore ranked first, Jabalpur second, and Agra with Surat shared third.
 - **Population 3–10 lakh:** Amravati ranked first; Jhansi and Moradabad shared second; Alwar ranked third.
 - **Population under 3 lakh:** Dewas ranked first; Parwanoo ranked second; Angul ranked third.
 - **Overall progress:** PM10 declined in 103 of 130 cities. 64 cities achieved a 20% cut while 25 cities reached a 40% cut.
- **Metro trends:**
 - Mumbai showed the highest decline (44%), followed by Kolkata (37%), Hyderabad and Bengaluru (26% each), Delhi (15%), and Chennai (12%).
 - Of the 130 cities, 22 met the National Ambient Air Quality Standards (NAAQS) by reporting annual average PM10 concentrations of less than 60 micrograms per cubic metre (ug/m3).
 - Among the big metros, only Chennai met the acceptable limit, recording an annual average of 58 ug/m3..
- **Recognitions and initiatives:**
 - Indore and Udaipur received Ramsar “Wetland Cities” certificates.
 - A target to plant 75 crore plants during “Seva Parv” under “Ek Ped Maa ke Naam” (Sept 17–Oct 2) was announced.

Acharya Vinoba Bhave

News: On September 11, 2025, India commemorates Acharya Vinoba Bhave’s 130th birth anniversary, celebrating his legacy in the independence movement, and Bhoodan Movement.

About Acharya Vinoba Bhave

- He (1895–1982) was born in Maharashtra, Vinoba Bhave was a **philosopher** and **social reformer** inspired by Gandhi’s non-violence and Satyagraha.
- **Freedom Struggle Contributions:**
 - In 1925, Gandhi entrusted him with the task of overseeing the **entry of Harijans** into the temple at **Vaikom, Kerala**.
 - Bhave was **Gandhi’s first Individual Satyagrahi in 1940**, symbolizing non-violent resistance.
 - He joined the **Quit India Movement** and faced multiple arrests, spending five years in prison for protests.
 - Bhave’s involvement with Gandhi’s constructive initiatives grew, focusing on **Khadi, village industries, education (Nai Talim)**, sanitation, and hygiene.
- His **Sarvodaya philosophy emphasized communal welfare**. Bhave **founded Brahma Vidya Mandir in 1959** to **empower women and promote non-violence**.
- His works, like **Ishavasyavritti**, reflect his spiritual approach to social reform.
- **Bhoodan and Social Reforms**
 - He led the **Bhoodan Movement from 1951**, promoting land donations for the landless.

- Initiated in **Pochampally (1951)**, Bhoodan redistributed land from over **1,000 villages to the landless via Gramdan (1954)**.
- His **Sarvodaya movement** addressed rural challenges, promoting **self-sufficiency**.
- In 1959, Bhave established the **Brahma Vidya Mandir in Paunar, Maharashtra**. **Brahma Vidya Mandir empowered** women through **non-violent principles**.
- **Bhave's legacy**, marked by his **1982 Samadhi Maran**, continues to inspire social justice, sustainable living, and non-violence globally.

Cross River Gorilla

News: Conservationists race to protect as fewer than 300 Cross River gorillas remain in **Nigeria and Cameroon's remote forests**.

About Cross River Gorilla (*Gorilla gorilla diehli*)



Figure 18. Source – Tol

- It is a western **gorilla subspecies**.
- **Habitat and Behavior**
 - It inhabits **Nigeria-Cameroon border forests** like **Cross River National Park, Afi, and Takamanda at 1,500–3,500m elevations**.
 - Residing in **dense rainforests**, these **gorillas form cohesive groups led by silverbacks**, foraging widely for vegetation and building ground or tree nests.
 - They minimally impact crops, unlike other wildlife.
- **Features**
 - It is known for **brownish-grey fur and red crests**, **silverbacks lead groups of 2–20**.
 - It feeds on leaves, nuts, and berries.
 - **Slow reproduction** (one birth every 4–5 years).
 - Each infant requires up to four years of maternal care, which limits population growth.
 - Lifespan ranges from 35 to 50 years, adding urgency to conservation efforts.
- **IUCN Status: Critically endangered**
- **Threats:** The population faces threats from **deforestation, poaching, and slow reproduction**.
 - Major threats include **bushmeat hunting, illegal pet trade, habitat loss from logging, and Ebola**.
- **Conservation efforts:** Initiatives by **WWF, WCS, and Nigeria's NCF support** protected areas, anti-poaching patrols, and community-based conservation under frameworks like CITES and CMS, addressing human-wildlife conflict and promoting sustainable livelihoods.

INS Aravali

News: The Indian Navy will commission INS Aravali at Gurugram on 12 September 2025, enhancing India's maritime domain awareness (MDA) capabilities.

About INS Aravali



Figure 19. Source – TH

- It is named after the steadfast **Aravali mountain range**.
- It is designed to strengthen the Indian Navy's **command, control, and MDA framework**.
- It is located at **Gurugram, Haryana**.
- The **base will support** information and communication centres, enabling real-time situational awareness across India's maritime frontiers.
- **Motto:** Guided by the motto **Maritime Security through Collaboration**, it exemplifies a

cooperative ethos, working seamlessly with naval units, MDA centres, and allied stakeholders.

- The base highlights India's emphasis on blending **technology, vigilance, and collaboration** to safeguard national maritime interests.
- **Strategic Role:** INS Aravali will act as a communication hub, enhancing maritime surveillance and supporting naval operations in the Indian Ocean Region.
- **Symbolism of Crest:** Its crest depicts the **Aravali Range**, symbolising strength, with a **rising sun** representing vigilance, resilience, and technological advancement.
- **MDA Integration:** The base will connect with India's coastal radar network, information fusion centres, and allied navies, ensuring round-the-clock monitoring of maritime traffic.
- **Collaborative Ethos:** Reinforces India's vision of maritime security as a collective responsibility, aligning with doctrines like **MAHASAGAR, which translates to "Great Ocean,"** captures India's broader ambition in the **global maritime domain**.

Réunion Island

News: The Indian Navy's first training squadron INS Aravali arrives at Réunion island, Mauritius.

About Réunion Island



Figure 20, Source – Britannica

- **Location:** Reunion Island is a remote Indian Ocean island located between **Madagascar and Mauritius**.
- It is an **overseas region of France**.
- **Capital:** The island's capital is **Saint-Denis** which is home to **one-fifth of the population**.
- The Island is home to one of **the world's most active volcanoes, the Piton de la Fournaise** which is also a **World Heritage site**.
- **Ports:** Réunion's coast has **no good natural harbors**.
- **Climate:** It has a tropical climate.

- **Geographical Features:** Réunion is mostly **volcanic and mountainous**, deeply dissected by short torrential rivers.
- **Rivers:** The **Marsouins** and **Galet Rivers** are the largest.
- Along with **Mauritius and Rodrigues**, the island forms the **Mascarene Archipelago**.
- **Strategic Importance:** Réunion hosts French naval bases, enhancing Indo-Pacific maritime security, aligning with India's regional interests. Its biodiversity, including 850 endemic species, supports global conservation efforts.
- **Demographics and Culture:** Today, the population is largely of **mixed African, European, and South Asian descent**. Its Creole culture reflects **African, Indian, and French influences**, visible in **maloya music** and a **spicy fusion cuisine**.

All-India Debt and Investment Survey (AIDIS) and the Situation Assessment Survey (SAS) of Agricultural Households

News: The NSO to conduct the **All-India Debt and Investment Survey (AIDIS)** and the **Situation Assessment Survey (SAS)** of **Agricultural Households** from July 2026 to June 2027.

All-India Debt and Investment Survey (AIDIS) and the Situation Assessment Survey (SAS) of Agricultural Households

About All-India Debt and Investment Survey (AIDIS)

- **Conducting agency:** The National Statistics Office (NSO), under MoSPI, conducts AIDIS as part of its large-scale household survey system.
- **Historical background:**
 - AIDIS traces **its origin to the All India Rural Credit Survey (1951–52)**.
 - It was expanded in 1961–62 to **cover both debt and investment**.
 - Since then, it has been conducted roughly once every decade, most recently in the **77th Round (2019) at the request of the Reserve Bank of India**.
- **Purpose and coverage:**
 - The survey **provides critical data on household indebtedness and asset ownership** in both rural and urban areas.
 - These **data feed into national accounts** and help assess inequality in asset distribution and understand credit markets.
 - The **findings inform policies of the RBI, MoSPI, and other government institutions**.

About Situation Assessment Survey (SAS) of Agricultural Households

- **Conducting agency:** The NSO, under MoSPI, conducts the SAS to assess farming livelihoods.
- **Historical background:**
 - **First launched in 2003** and **expanded in 2013** to cover all agricultural households.
 - It was **further strengthened in 2019** to provide comprehensive insights.
- **Scope:** The survey covers:
 - Household income and expenditure.
 - Indebtedness and access to credit.
 - Land and livestock ownership.
 - Crop and livestock production.
 - Farming practices and use of technology.
 - Access to government schemes and crop insurance.

- **Significance**

- It **assesses the economic conditions of farming communities** and now provides comprehensive insights into agricultural livelihoods.
- Its **findings are used by** the Ministry of Agriculture and Farmers Welfare, NITI Aayog, researchers, and financial institutions to shape agriculture and rural development policies and programmes.
- By covering income–expenditure, indebtedness and credit access, land and livestock ownership, crop and livestock production, technology use, and access to schemes and crop insurance, **it offers a single evidence base for targeted interventions.**

Samudra Pradakshina

News: The Raksha Mantri virtually flagged off Samudra Pradakshina, a Tri-service all-women circumnavigation expedition, from the Gateway of India, Mumbai.

About Samudra Pradakshina

- It is a **nine-month voyage** by **10 women officers** aboard the indigenously built Indian Army Sailing Vessel (IASV) Triveni.
- The team will **sail about 26,000 nautical miles on an easterly route**, round Capes Leeuwin, Horn and Good Hope, make four international port calls, and return to Mumbai in May 2026.
- **Aims**
 - Commemorate **Nari Shakti** and the **vision for Viksit Bharat**.
 - Demonstrate **jointness and unity of the three Services**.
 - **Showcase Aatmanirbhar Bharat** and **India's global vision through maritime diplomacy**.
- **Objective**
 - **Complete a global circumnavigation in accordance with WSSRC norms**—cross all longitudes, undertake **Equator crossings**, and cover **over 21,600 nautical miles under sail alone**, without canals or powered transit.
 - **Conduct scientific work with the National Institute of Oceanography**, including **micro-plastics study, documentation of ocean life, and awareness on marine health..**
- **Features**
 - **Platform:** IASV Triveni, a **50-foot, indigenously built yacht from Puducherry**.
 - **Crew:** A 10-member Tri-service team led by Expedition Leader **Lieutenant Colonel Anuja Varudkar**; Deputy Expedition Leader **Squadron Leader Shraddha P Raju**.
 - **Preparation:** Three years of offshore training from Class B vessels to the Class A IASV Triveni (acquired in October 2024), including a Mumbai–Seychelles–Mumbai voyage.
- **Past Examples**
 - **First solo global (UK) non-stop circumnavigation (1969):** Sir Robin Knox-Johnston completed the first solo non-stop circumnavigation in 1969.
 - **First solo Indian circumnavigation (2009–10):** Captain Dilip Donde completed
 - **First Indian non-stop circumnavigation (2012–13):** Commander Abhilash Tomy.
 - The Indian Navy's **Navika Sagar Parikrama (2017–18)** and **Navika Sagar Parikrama-II (2024–25)** on INSV Tarini were successful circumnavigation expeditions.

Sahyadri Tiger Reserve

News: The Union Environment Ministry approved capturing eight tigers from Tadoba–Andhari and Pench for translocation to the Sahyadri Tiger Reserve, to revive the big cat population in the northern Western Ghats.

About Sahyadri Tiger Reserve



Figure 21. Source – Wildlife Conservation Trust

- **Location:** The Sahyadri Tiger Reserve is located in the **Sahyadri Ranges of Western Ghats in Maharashtra** along the common boundary with Karnataka and Goa.
 - The reserve straddles Kolhapur, Sangli, Satara, and Ratnagiri districts.
 - It is the **first** Tiger Reserve of **Western Maharashtra** and the **fourth** Tiger Reserve of the State.
 - **Major river:** The reserve forms the catchment of the **Koyna and Warna rivers**, which are crucial for neighbouring districts.
 - **Protected Areas:** It comprises **Koyna Wildlife Sanctuary (KWLS)** and **Chandoli National Park (CNP)**.
 - **Terrain:** The habitat of reserve is composed of **woodlands, grasslands and plateau**, the latter locally referred to as “**Sadaa**”, which are **lateritic in nature** with considerable habitat value.
- The **slopes** in the Chandoli National Park habitat are **less steep**, with small water bodies and a number of ecotone areas.
- **Vegetation:** It include **Western (Montane) Subtropical Hill Forests** on higher ridges, **West Coast Semi-evergreen Forests** in valleys, and **Southern Moist Mixed Deciduous Forests** on the lower slopes..
 - **Flora:** The flora includes **medicinal and fruit-bearing trees** such as Anjani (*Memecylon umbellatum*), Jambhul (*Syzygium cumini*), and Pisa (*Actinodaphaone Angustifolia*)..
 - **Fauna:** Tiger, wild dog, and leopard, gaur and sambar, along with four-horned antelope, mouse deer, and giant squirrel; **birds** including hornbills and vultures; and reptiles like crocodiles and diverse snakes.

SWAGAT-FI

News: SEBI announced a proposal to introduce the **Single Window Automatic & Generalised Access for Trusted Foreign Investors (SWAGAT-FI)** framework for FPIs and FVCI (Foreign venture Capital Investor).

About SWAGAT-FI



Source – ET

- SWAGAT-FI is a **single-window, unified access mechanism** for select **low-risk foreign investors**.
- **Full form:** Single Window Automatic & Generalised Access for Trusted Foreign Investors
- **Aim:** The framework aims to **unify, streamline, and standardise market access** for specified trusted foreign investors, simplify compliance and documentation, and improve India's attractiveness as an investment destination.
- **Eligibility**
 - **Government and government-related investors**, including central banks, sovereign wealth funds, and multilateral entities.
 - Appropriately **regulated Public Retail Funds** such as mutual funds, insurance companies, and pension funds.
 - **Existing FPIs** meeting criteria may convert to SWAGAT-FI status.
- **Features**
 - Option to register as **both FPI and FVCI** without further documentation, enabling investment in listed equity and debt (as FPI) and in specified unlisted sectors and startups (as FVCI).
 - Continuance of registration, fee payment, and KYC **review** every 10 years.
 - Optional **single demat account** for all holdings across routes, with depository-level tagging for supervision.
 - **Removal of the aggregate NRI/OCI/Resident** Indian contribution cap for SWAGAT-FIs (currently 50% for FPIs).
 - **Unified registration** across routes with reduced repeated compliance.

Coast Guard Global Summit 2025

News: India participated in the 4th Coast Guard Global Summit (CGGS) in Rome (11–12 September 2025), reaffirming commitment to maritime governance and announcing its bid to host CGGS 2027.

About Coast Guard Global Summit 2025



Source – DD News

- The **Coast Guard Global Summit (CGGS)** is a multilateral forum for dialogue, confidence-building, and cooperation among coast guards worldwide.
- First convened in **2017** by the **Japan Coast Guard** and the **Nippon Foundation**, it has become a vital mechanism for maritime safety, security, and environment protection.
- The 4th edition (2025) was **co-chaired by Italy and Japan** with the ethos “Guardians at Sea.”
- **Summit Themes:** Maritime safety, marine environment protection, disaster response, law enforcement against piracy/smuggling, and technology-driven surveillance.
- Delegates from **115 countries and international organisations** attended, making it one of the largest coast guard gatherings globally.
- **Global Cooperation:** Emphasis on countering transnational crimes, strengthening capacity-building, and promoting inter-regional partnerships.
- **India’s Bid for 2027:** Hosting CGGS would reinforce India’s maritime diplomacy, blue economy initiatives, and its role as a “**Preferred Security Partner**” in the **Indian Ocean Region (IOR)**.

Belarus

News: Russia and Belarus launched the joint military exercise Zapad-2025 near NATO borders, involving drills in Belarus, Russia, and the Baltic region.

About Belarus



Figure 22. Source – Britannica

- **Location:** Belarus is a **landlocked Eastern European country**.
- **Bordering countries:** It is bordered by **Russia, Ukraine, Poland, Lithuania, and Latvia**.
- **Capital:** Minsk.
- **Languages:** Belarusian (24%, official), Russian (70%, official).
- Ethnic Belarusians form three-fourths of the population.
- **Relief:** Predominantly **flat** lowlands with **forest cover (~40%)**.
 - The **Białowieża Forest** is a **UNESCO World Heritage site**.

Factly Compilation September 2025

- **Rivers:** Dnieper basin dominates; **Mukhavyets** drains into the Bug River.
- **Climate:** Cool **continental** with Atlantic influence.
- Independent since **1991**, formerly part of the Soviet Union (Belorussia).
- **Zapad-2025 Exercise:** Launched on September 12, 2025, the Russia-Belarus joint military drills simulate repelling attacks and restoring territorial integrity, involving troops, naval deployments in the Baltic and Barents seas, and coalition forces.
- **Geostrategic Role**
 - Belarus is a close **Russian ally**, forming the **Union State** with Moscow.
 - **Borders NATO States:** Poland, Lithuania, and Latvia have tightened border controls amid tensions.
- **Significance:** Belarus serves as **Russia's western frontier**, a buffer **against NATO expansion**, and a **critical participant in regional security**, energy transit, and military cooperation.

Pink Tax

News: Rising awareness **highlights Pink Tax** in India, where women often pay more for similar products and services like razors, shampoos, and haircuts, **silently eroding household savings** and demanding fair pricing.

About Pink Tax

- Pink Tax is **not a government levy** but a **gender-based pricing phenomenon** where **women's products or services cost more than men's equivalents** despite similar quality.
- Common examples include **personal care items, toys, clothing, dry-cleaning, and salon services**.
- The term originated in **California in 1994**; **global studies reveal women pay 7–13% more**.
- In India, awareness is low, with 67% never having heard of Pink Tax (IFSA research). The 2018 GST exemption on sanitary napkins was a landmark move against such disparity.
- **India's Case:** Women's shampoos, razors, and haircuts are often priced higher; 2018 GST relief on sanitary products marked progress.
- **Economic Impact:** With women earning less on average, Pink Tax deepens inequality and strains family savings.
- **Legal & Awareness:** No specific anti-Pink Tax law exists, but NCDRC mandates fair pricing.

Defence Procurement Manual 2025

News: Raksha Mantri Rajnath Singh approved the **Defence Procurement Manual (DPM) 2025** to **streamline defence revenue procurement, boost Aatmanirbharta, and enhance preparedness** through **simplified, transparent processes ensuring timely availability of resources**.

About Defence Procurement Manual 2025



Source – AIR

- The **Defence Procurement Manual (DPM) 2025** replaces the **2009 version** to align with modern warfare and public procurement norms.
- It regulates revenue procurements valued at around **₹1 lakh crore annually** under the **Ministry of Defence**.
- The manual simplifies processes for **operations and sustenance**, empowers **Competent Financial Authorities (CFAs)** for faster decisions, and ensures timely supplier payments.
- It promotes Aatmanirbharta by enabling participation of **private players, MSMEs, start-ups, academia, IITs, IISc, and DPSUs** in defence innovation and indigenisation.
- **Significance**
 - **Ease of Doing Business:** Relaxed penalties; **maximum Liquidated Damages capped at 5% (10% for major delays)**.
 - **Industry Support:** Supportive financing, **assured orders up to 5-10 years**, and **technical handholding by Services**.
 - **Innovation Push:** Dedicated chapter on **R&D and indigenisation**; collaboration with academia and industry.
 - **Flexibility:** Limited Tendering allowed up to **₹50 lakh**; **proprietary** items permitted under Propriety Article Certificate.
 - **Operational Readiness:** 15% work growth provision for **repair/refit of aerial and naval platforms to reduce** downtime.
 - **Transparency & Fairness:** NOC from DPSUs removed; competitive bidding mandated; aligned with **Government-to-Government (G2G)** procurement norms.

Romania

News : The European Union has termed the entry of a Russian drone into Romanian airspace “unacceptable,” calling it a “reckless escalation”.

About Romania



Source – Britannica

- **Location:** Romania is a country in **Southeastern Europe**;
- Capital: **Bucharest**.
- **Borders:** It is bordered by **Ukraine (north)**, **Moldova (northeast)**, the **Black Sea (southeast)**, **Bulgaria (south)**, **Serbia (southwest)**, and **Hungary (west)**.
- **Climate:** Temperate with four distinct seasons; regional variations shaped by relief.
- **Relief:** Dominated by the Carpathian Mountains; substantial areas of hills and plains.
- **Major rivers:** Danube, Tisza, and Prut.
- **Highest peak:** **Mount Moldoveanu**.
- **Biodiversity:** The **Danube delta (UNESCO, 1991)** hosts hundreds of bird species; the Carpathians shelter chamois and other fauna.
- **System of Government:**
 - The 1991 constitution **established a bicameral parliament** (Chamber of Deputies and Senate) elected by proportional representation.
 - The president is **directly elected for a five-year term**.
 - The **prime minister heads the government**, and laws are approved by majority vote in each chamber.
- **International Affiliations:** Joined **NATO in 2004** and the **European Union in 2007**; part of the **“Bucharest Nine” (founded 2015)** on NATO’s eastern flank

Erra Matti Dibbalu (red sand dunes)

News : Erra Matti Dibbalu (red sand dunes) beside the Visakhapatnam – in Andhra Pradesh were added to the Tentative List of UNESCO Natural Heritage Sites.

About Erra Matti Dibbalu (red sand dunes)



Source – TH

- **Location:** It is also called the **Red Sand Hills**, it is located on the **outskirts of Visakhapatnam** along the **Bay of Bengal coast**.
- **Origin:** It was formed during the **late Quaternary Age (about 2.6 million years)**, these deposits capture climate oscillations and sea-level changes, providing a stratigraphic record of landscape evolution.
- **Discovery:** The site was **first documented in 1886 by British geologist William King**.
- The landscape spans about **1,500 acres** and displays rare coastal **geomorphological formations**.
- **Importance:** The striking **red, sediment-derived dunes** are an important sedimentary record that offers insights into past climatic conditions, with multi-layered sediments preserved in place.
- **Recognition:** It was **declared a National Geo-heritage Monument in 2016** by the Geological Survey of India.
- **Key feature**
 - It is composed of sand, silt, and clay. The red colour results from long-term natural oxidation.
 - The red sediments form a continuing chapter in Earth's evolution and represent the late Quaternary geologic age.
 - It exhibits badland topography with different geomorphic landforms and features. These include gullies, sand dunes, buried channels, beach ridges, paired terraces, the "valley in the valley," wave-cut terraces, knickpoints, and waterfalls.
 - Dendritic drainage and well-preserved sediment layers that record sea-level and climate fluctuations.
 - Extremely rare globally, with only two comparable sites: **one in Sri Lanka and another in Tamil Nadu (Teri Sands)**.

Kaveri / Cauvery River

News: Karnataka Chief Minister said there will be no disputes with Tamil Nadu over sharing Cauvery water this year.

About Kaveri/Cauvery River



Source – WRIS

- It is also called the “**Dakshin Bharat ki Ganga**,” flows southeast through Karnataka and Tamil Nadu.
- **Origin:** The river originates at **Talakaveri in the Brahmagiri range** of the Western Ghats, **Kodagu (Coorg) district, Karnataka**.
- **Drains into:** It descends the Eastern Ghats with **many waterfalls and forms a fertile delta** before entering the Bay of Bengal.
- It is the **third largest river in southern India** after Godavari and Krishna, and the largest in Tamil Nadu, where it is known as “**Ponni**.”
- The **basin includes Tamil Nadu, Karnataka, Kerala, and Puducherry**, bounded by the Western and Eastern Ghats and northern ridges.
- **Tributaries**
 - **Left bank:** Arkavathi, Hemavathi, Shimsa, Harangi.
 - **Right bank:** Lakshmantirtha, Suvarnavati, Noyil, Bhavani, Kabini, Amaravathi.
- **Soil type:** The basin contains black, red, laterite, alluvial, forest, and mixed soils.
 - **Red soils** occupy large areas, while **alluvial soils** predominate in the delta, which is the most fertile tract.
- **Dams on Cauvery River**
 - Krishnarajasagar (Karnataka)
 - Mettur Dam (Tamil Nadu)
 - Kaveri Delta System (Tamil Nadu)
 - Lower Bhavani Project (Tamil Nadu)
 - Hemavati Project (Karnataka)
 - Harangi Project (Karnataka)
 - Kabini Project (Karnataka and Kerala)

Cauvery Water Dispute

- **Stakeholders:** The dispute involves **Karnataka, Tamil Nadu, Kerala, and Puducherry**. Hence, all four are riparian stakeholders.
- **Tribunal and final award (1990–2007)**
 - The **Cauvery Water Disputes Tribunal (CWDT)** was set up in **1990**.
 - After **17 years**, it issued a **final order in 2007** allocating water in a **normal year total of 740 TMC** as follows:
 - **Tamil Nadu:** 404.25 TMC
 - **Karnataka:** 284.75 TMC

- **Kerala:** 30 TMC
- **Puducherry:** 7 TMC
- **Supreme Court and implementation (2018):** In 2018, the **Supreme Court** declared the **Cauvery** a **national asset** and largely upheld the CWDT's sharing arrangement.
 - It directed the Union Government to **notify a management scheme**.
- **Management framework (June 2018):** The Centre notified the **Cauvery Water Management Scheme**, creating the **Cauvery Water Management Authority (CWMA)** and the **Cauvery Water Regulation Committee (CWRC)** to oversee and regulate implementation.

Combined Commanders' Conference 2025

News: PM Narendra Modi reviewed security and operational preparedness at the **16th Combined Commanders' Conference in Kolkata** on 15 September 2025.

About Combined Commanders' Conference 2025



Figure 23. Source – PMO

- The CCC is a **biennial apex-level forum of the Armed Forces** that brings top civil and military leadership together to **shape future preparedness**.
- **Theme of 2025**
 - Central theme: **“Year of Reforms – Transforming for the Future.”**
 - Focus areas: **Reforms, Transformation & Change, and Operational Preparedness**.
- The Prime Minister was briefed on operational **readiness in the “new normal”** created by **Operation Sindoor** and on the future of warfare amid emerging technology and tactics.
- **Senior participants** include the Defence Minister, National Security Adviser, Minister of State for Defence, Chief of Defence Staff, the three Service Chiefs, Defence Secretary, and other senior officials.
- **Significance**
 - **Holistic review and roadmap:** Conducts a holistic review of structural, administrative, and operational matters and develops the roadmap to implement the Prime Minister's vision.
 - **Reform-centric modernisation:** Reflects commitment to **institutional reforms, deeper integration, and technological modernisation** to address evolving challenges.
 - **Multi-domain operational readiness:** Sustains **high multi-domain operational preparedness** amid **increasing global uncertainties**.
 - **Agile Posture & Inclusive Decision-Making:** Strengthens an **agile and decisive** force posture while ensuring inclusive decision-making through interactive sessions that bring field perspectives to top-level deliberations.

International Electrotechnical Commission (IEC)

News: India will host the 89th IEC General Meeting at Bharat Mandapam, New Delhi, on 15–19 September 2025.

About International Electrotechnical Commission (IEC)



Figure 24. Source – IEC

- It is a **global standard-setting organization** that prepares and publishes **international standards for electrical, electronic, and related technologies** to ensure **safety, efficiency, and interoperability**.
- **Establishment:** Founded in 1906 and headquartered in Geneva, Switzerland.
- **Membership:** Comprises 89 member countries, including India.
- **Functions:**
 - Develops international standards for power generation, transmission and distribution, renewable energy, semiconductors, batteries, nanotechnology, and smart grids.
 - Promotes harmonized technical rules to facilitate global trade and technological cooperation, working with **International Organization for Standardization (ISO)** and **International Telecommunication Union (ITU)**.
- **Significance for India**
 - **Hosting & history:** India hosts the 89th GM; **fourth time after 1960, 1997, 2013**.
 - **BIS in global governance:** The Bureau of Indian Standards (BIS) representation in ISO/IEC bodies to **align national priorities with international best practices**.
 - **India's IEC membership & expert contribution:** India is a full IEC member via BIS; experts contribute on renewable energy, smart grids, e-mobility, and energy storage.
 - **Global Secretariat (LVDC):** India will serve as the Global Secretariat for Low Voltage Direct Current (LVDC).
 - **Scale & agenda of GM:** 89th GM exhibition is the "**Largest**" **electrotechnical exhibition in India**. It will feature 150+ committee meetings and workshops on sustainability, AI, e-mobility, inclusivity, and an all-electric and connected society.
 - **Talent pipeline:** BIS builds talent through student chapters, a six-month internship, and the IEC Young Professionals Programme hosting 93 participants.

Exercise Pacific Reach 2025 (XPR 25)

News: India is participating in Exercise Pacific Reach 2025 (XPR 25), commencing on 15 September 2025, under Eastern Fleet command.

About Exercise Pacific Reach 2025 (XPR 25)



Figure 25. Source – AIR

- XPR 25 is a **biennial submarine rescue exercise**
- It is **hosted by Singapore** with **40+ nations as participants or observers**.
- The exercise will mainly be conducted in **two phases**:
 - **Harbour phase:** This phase will involve in-depth discussions on submarine rescue systems, Subject Matter Expert Exchanges (SMEE), medical symposium and cross deck visits between the participating nations.

- **Sea phase:** This phase of the exercise would witness INS Nistar and SRU(E) engaging in multiple intervention and rescue operations with participating assets in South China Sea.
- **Location:** XPR 25 is hosted by Singapore, with a **harbour phase in Singapore** and a **sea phase in the South China Sea**.

About INS Nistar

- **Type and status:** Latest **indigenously designed and constructed** Diving Support Vessel (DSV) of the Indian Navy.
- **Commissioning:** 18 July 2025.
- **Command:** Functions under the **Flag Officer Commanding Eastern Fleet**.
- **Role in XPR 25:** Will act as **mothership (MoSHIP)** for the **Deep Submergence Rescue Vehicle (DSRV)**.
- **Key onboard capabilities:** It has- **Side Scan Sonar, work-class and observation-class ROVs**, and **expansive deep-sea diving systems**. It is capable of **rescue operations till depths of 650 meters**

Manki-Munda system

News: Adivasis from the Ho tribe in Jharkhand's West Singhbhum recently protested against the Deputy Commissioner, accusing interference in their traditional Manki-Munda self-governance system after the removal of village heads (Mundas).

About Manki-Munda system



Figure 26. Source – IE

- The Manki-Munda system is a **centuries-old, decentralised** form of self-governance practiced by the **Ho Adivasi community** in **Jharkhand's Kolhan region**.
- It revolves around hereditary village **headmen (Mundas)** and **regional chiefs (Mankis)**, handling internal disputes and social matters rather than revenue or taxation.
- Each village traditionally has one **Munda**, the hereditary head of the village.
- The Munda resolves socio-political disputes at the local level, ensuring harmony and custom adherence within the village.
- A **Manki** is the head of a **Pir** (cluster of 8-15 villages). If a dispute cannot be resolved at the village level by a Munda, it escalates to the Manki for resolution at the regional level. Before British intervention, the system had no tax or revenue obligations.
- With the Permanent Settlement Act (1793), **zamindars encroached on Ho land, triggering tribal revolts such as the Ho Rebellion (1821-22) and Kol Rebellion (1831-32)**.
- **Wilkinson's Rules (1833):** Captain Thomas Wilkinson created **31 rules** in 1833 to **codify** the Manki-Munda system. These rules **formalized the Manki-Munda system** and made the leaders act as agents of the British. While the system seemed to protect tribal autonomy, it integrated Kolhan into British India.

- **Changes Under British Rule:** The population of **outsiders (dikkus)** grew from **1,579** in **1867** to **15,755** in **1897** due to railways. The **concept of private property** was introduced, and **Mundas and Mankis** became **raiyats (tenants)** with land deeds.
- After India's independence, **Wilkinson's Rules** continued to apply in Kolhan.
- In **2000**, the **Patna High Court** declared the rules as **customs**, not formal law, but allowed their continuation.
- **Nyay Manch** was proposed in **2021** to modernize the system but has not been implemented.
- **Demands for Reform**
 - Some members of the **Ho community**, especially youth, demand **reforms** in the system.
 - They propose ending **hereditary leadership** and allowing **educated individuals** (tribal and non-tribal) to take leadership roles.
 - The lack of **formal education** among some **Mundas and Mankis** creates difficulties in modern administration.

About the Ho Tribe

- The Ho tribe is an **Austroasiatic Munda ethnic group** primarily located in **Jharkhand's Kolhan region and northern Odisha**. Smaller populations are found in **West Bengal, Bihar, Bangladesh, and Nepal**.
- The Ho tribe is the **fourth-largest Scheduled Tribe in Jharkhand**, following the Santals, Kurukhs, and Mundas.
- As per the 2011 Census, **they constitute 10.7% of Jharkhand's and 7.3% of Odisha's Scheduled Tribe population**.
- The tribe speaks the **Ho language**, an Austroasiatic language closely related to Mundari.
- They have several dialects, including **Lohara, Chaibasa, and Thakurmunda, and a native script known as Warang Citi**.
- The majority of the **Ho tribe are engaged in agriculture, cultivating crops like rice and vegetables**. They are also involved in iron ore mining, contributing to the regional economy.
- A large portion (52.8% as per the 2011 Census) of the Ho people follow **Sarnaism, a nature-centric indigenous religion**.
- **Women hold a high status in Ho society**, with traditional practices supporting gender equality.
- The tribe follows a **bride-price system, with payments ranging from ₹101 to ₹1,001**, which, though symbolic, often delays marriages and leads to a female-majority population.
- **Festivals and Cultural Arts:** Key festivals include **Mage Parab, Baa Porob, and Sohrai**, which celebrate agriculture and the Sal forests.
- The Ho tribe is known for its traditional dances, often accompanied by instruments like the **Dama** (drum) and **Rutu** (flute), which play an important role in their cultural expressions.

Gyan Bharatam Portal

News: Recently, PM launches the Gyan Bharatam Portal which is a dedicated digital platform to accelerate manuscript digitisation, preservation, and public access.

About Gyan Bharatam Portal



- It is a **dedicated digital platform** aimed at **accelerating the digitization, preservation, and public access to India's vast manuscript heritage.**
- **Mission:** It supports the Gyan Bharatam Mission, which seeks to become the **voice of India's culture, literature, and knowledge legacy.**
- **Aim:** It aims to **become an important educational resource for scholars and the general public interested in India's cultural and intellectual history.**
- **Thematic Focus:** The portal was launched during the International Conference on Gyan Bharatam, themed **"Reclaiming India's Knowledge Legacy through Manuscript Heritage."**
- **Key Areas of Focus:** The conference addressed **critical areas such as manuscript conservation, digitization technologies, metadata standards, and the decipherment of ancient scripts.**
- **Unlocking Historical Knowledge:** The portal **helps unlock India's rich intellectual and cultural heritage**, making it available for global exploration and learning.
- **Research and Innovation:** It **serves as a vast data bank for new research, academic exploration, and innovation** in cultural and creative industries.
- **Cultural Diplomacy:** The portal not only serves as a preservation tool but also plays a role in fostering cultural diplomacy, allowing India to showcase its rich heritage on the global stage.
- **Key Features of the Gyan Bharatam Portal**
 - **Digitization of Manuscripts:** The portal facilitates the process of converting ancient manuscripts into digital format for wider access and preservation.
 - **Preservation and Accessibility:** It ensures the safe preservation of valuable manuscripts while making them accessible to scholars, researchers, and the public.
 - **Integration of Technology:** The platform utilizes modern technologies to aid in the conservation and digitization of manuscripts, ensuring accuracy and quality.
 - **Global Significance and Economic Potential**
 - **Cultural and Creative Industries:** With a global value of 2.5 trillion dollars, the digitization of India's manuscript wealth contributes to the cultural sector, supporting both research and economic growth.
 - **Global Knowledge Dialogue:** The portal positions India's manuscripts as central to a global dialogue on knowledge, culture, and heritage.

Operation Weed Out

News: Directorate of Revenue Intelligence (DRI), under pan-India Operation Weed Out, seized 108.67 kg hydroponic weed in 20 days.

About Operation Weed Out

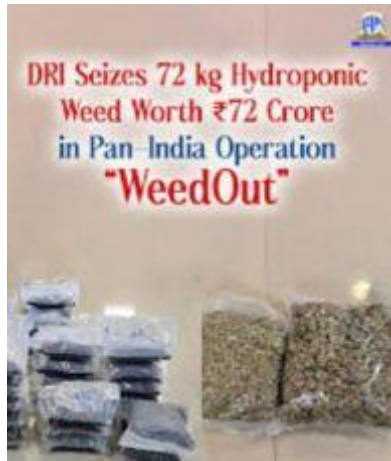


Figure 27. Source – AIR

- An ongoing **pan-India anti-drug enforcement drive** targeting hydroponic weed smuggling, based on specific intelligence inputs.
- **Conducted by: Directorate of Revenue Intelligence (DRI).** It is India's primary anti-smuggling and economic intelligence agency operating under the **Ministry of Finance, Central Board of Indirect Taxes and Customs (CBIC).**
- **Aim**
 - To act firmly against drug syndicates smuggling hydroponic weed into India **under the Narcotic Drugs and Psychotropic Substances (NDPS) Act, 1985.**
 - To reinforcing the Government of **India's vision of a Nasha Mukta Bharat.**

About hydroponic weed

- **Cannabis** grown **without soil** in a controlled environment using nutrient-rich water solutions.
- Roots supported by **inert media** such as rockwool, clay pellets, peat moss, or perlite.
- Method allows precise control, enabling faster growth, higher yields, and potentially more potent buds.

Carlsberg Ridge

News: India signed an exploration **contract with the Jamaica-based ISA** in Delhi on September 15, 2025, the first licence to explore polymetallic sulphur nodules in the Carlsberg Ridge.

About Carlsberg Ridge



Figure 28. Source – Britannica

- It is a **mid-oceanic ridge (a divergent plate boundary)** in the **Indian Ocean**, specifically in the Arabian Sea and the northwest Indian Ocean.
- The ridge extends from the **triple junction of the African, Indian, and Australian plates**, northwest to the Gulf of Aden.
- It **separates the Arabian Sea** to the northeast from the **Somali Basin** to the southwest, turns west around Socotra, and links to the East African Rift via the Gulf of Aden.
- It forms the **boundary between the Indian and Arabian tectonic plates**, extending from near Rodrigues Island to the Owen fracture zone.
- Its mean **depth is about 1,800–3,600 metres below sea level**, and it rises roughly 2,100 metres above the seafloor.
- It spans about 3,00,000 sq km and coincides with a belt of seismic activity, with numerous earthquake epicentres.

Significance of Carlsberg Ridge for India

1. **Resource Potential:** The area hosts **polymetallic nodules rich in manganese, cobalt, nickel, and copper, with reported trace elements such as copper, lead, and zinc.**
2. **Capability Building:** The licence supports India's aims in **subsea technology, robotics, and environmental impact assessment** while acknowledging concerns over seabed mining impacts.
3. **Energy Security:** Securing potential supplies of critical minerals is important for manufacturing competitiveness and energy security during the clean-energy transition.
4. **Strategic Deterrence:** Exploration rights help block competing claims, amid reports of Chinese ships scouring the region.

Chhath Mahaparva

News: The Ministry of Culture met diplomats from the UAE, Suriname, and the Netherlands at IGNCA to seek support for Chhath Mahaparva's nomination to UNESCO's ICH Representative List.

About Chhath Mahaparva



Figure 29. Source – HT

- Chhath Mahaparva is dedicated to the **Sun God and Goddess Chhathi Maiya.**
- It is known for **simplicity, devotion, and self-discipline**, and upholds ecological and egalitarian values.
- **History:** Considered one of the **oldest Vedic rituals**, with references to sun worship found in the **Rig Veda** and in stories related to **Karna (Mahabharata).**
- **Prominent areas of celebration:** Widely observed in **Bihar, Jharkhand, Uttar Pradesh,**

and West Bengal, and among **diaspora communities** in Mauritius, Fiji, Suriname, the UAE, and the Netherlands.

About Intangible Cultural Heritage (ICH)

- Intangible cultural heritage comprises practices, representations, expressions, knowledge, and skills that communities, groups, and individuals recognize as their cultural heritage.
- **India** already has **15 elements inscribed** on UNESCO's Representative List.
- To know more about this topic, click [here](#).

AI for Viksit Bharat Roadmap and NITI Frontier Tech Repository

News: NITI Aayog launched two transformative initiatives recently under its **Frontier Tech Hub: AI for Viksit Bharat Roadmap: Opportunity for Accelerated Economic Growth** and **NITI Frontier Tech Repository.**

About AI for Viksit Bharat Roadmap



Figure 30. Source – PIB

- **Launched by:** NITI Aayog
- **Aim:** To accelerate India's transformation to **Viksit Bharat by 2047** by leveraging frontier technologies such as Artificial Intelligence (AI).
- **Objective:** To provide a practical action plan to translate AI's promise into real-world outcomes for economic growth and innovation.
- **Key Features:**
 - **Accelerating AI adoption across industries** to enhance productivity and efficiency.

- **Transforming R&D with Generative AI** to help India leapfrog into innovation-driven opportunities.
- **Sector-specific Action Plan** to ensure measurable impact at the national and local level.
- It emphasizes on **AI-assisted technologies in all districts** to drive inclusive development.

About NITI Frontier Tech Repository

- **Launched by:** NITI Aayog
- **Objective:** To showcase and scale real-world applications of frontier technologies deployed across India.
- **Key Features**
 - It contains **200+ impact stories** across four major sectors — **Agriculture, Healthcare, Education, and National Security**.
 - It highlights successful use cases by **states and startups** demonstrating technology-led transformation.
 - It provides a **knowledge-sharing platform** for districts and states to adopt and replicate successful models.
- **Support Initiatives Announced**
 - **Frontier 50 Initiative:** NITI Aayog will support 50 Aspirational Districts/Blocks to pick use cases from the Repository and deploy frontier technologies to accelerate service saturation.
 - **NITI Frontier Tech Impact Awards:** Recognizes three states excelling in technology adoption in governance, education, healthcare, and livelihoods, and supports them to scale transformative outcomes.

Significance of Both Initiatives

- It catalyzes **grassroots adoption** of advanced technologies.
- It inspires states and districts to **scale frontier technology solutions** for measurable outcomes.
- It enables India to **anticipate and lead future tech disruptions** by strengthening supply chains, defining global standards, and forging alliances.
- It promotes an **inclusive and collaborative innovation ecosystem** to realize the vision of **Viksit Bharat 2047**.

National Means-cum-Merit Scholarship Scheme (NMMSS)

News: The deadline for the National Means-cum-Merit Scholarship Scheme (NMMSS) on the National Scholarship Portal (NSP) has been extended to 30 September 2025.

About National Means-cum-Merit Scholarship Scheme (NMMSS)



NMMS Scheme -National Means cum Merit Scholarship Scheme (NMMSS)

Figure 31. Source – Shiksha Press

- **Implemented by:** Department of School Education & Literacy, Ministry of Education.
- **Aims:** To provide financial support to meritorious students from economically weaker sections to reduce drop-outs after Class VIII and encourage completion of education up to Class XII.
- **Objective of the Scheme:** To award scholarships to meritorious students of economically weaker sections to arrest their drop-out at Class VIII and encourage them to continue their education at the secondary stage.
- **Scope and Coverage:** The scheme awards one lakh fresh scholarships every year to students of Class IX.
 - The scholarship is renewed for Classes X to XII subject to satisfactory academic performance.
 - Applicable only to students studying in State Government, Government-aided, and local body schools.
- **Scholarship Amount:** Each selected student receives ₹12,000 per annum (₹1,000 per month). The scholarship is credited directly to the student's bank account through DBT mode via PFMS.
- **Eligibility Criteria**
 - Parental income must not exceed ₹3.50 lakh per annum.
 - Students must secure at least 55% marks in Class VII (relaxable by 5% for SC/ST students) to appear in the selection test.
 - Selection tests are conducted by State/UT governments.
- **Key Benefits of the Scheme**
 - It provides direct financial support to poor but meritorious students.
 - It helps reduce drop-outs and ensures continuity in education.
 - It promotes equity in access to quality secondary and higher secondary education.

Air Defence RADARS

News: The Army began procuring advanced air-defence radars to plug border gaps, four months after Operation Sindoor, when hundreds of Pakistani UAVs breached Indian airspace.

About Air Defence RADARS



Figure 32. Source – DRDO

- Radar is the **acronym for Radio Detection And Ranging**.
- It is a specialized **electronic system that uses radio waves** to determine the direction, distance (using time delay), and velocity (through Doppler Shift) of target objects.
- **Uses:** Radars are used by the military to search, detect, identify, and help destroy aerial threats.
- **Components:**
 - **Transmitter:** Sends out **radio signals**.
 - **Receiver:** Collects reflected signals from targets.
- **Types of radars:**
 - **Surveillance radars:** These systems continuously surveil the skies to detect aerial objects, whose detections are analysed by an operator, increasingly with computer assistance, for identification.
 - **Fire control radars:** These systems provide targeting support to surface-to-air guns or missiles so that identified aerial threats can be engaged effectively.

- **Radar Cross-Sections (RCS):** It is a measure of how detectable an object is by radar, usually represented in sq. m.
 - The **larger the RCS, greater the detectability**.
 - The RCS is **not only the function of the size** of an aerial object but also its **specific design features**: the basic thrust of modern stealth technology is to reduce an aircraft's RCS.

Indian Defence Forces' Radar Capabilities

- Both the **army and the Indian Air Force** have both **surveillance** and **fire control** radars, including Low Level Light Weight Radars (LLLRs) for low-altitude.
- **Indian Army** primarily uses **Flycatchers** (indigenously upgraded Super Fledermaus/USFM) and the **AD tactical control radar for fire control**.
- The **IAF** controls most **high- and medium-power radars** with ranges of up to several hundred kilometres for higher-altitude tracking of larger threats such as fighter jets, transport aircraft, and AWACS.
- IAF employs **fire control radars** including the **3D central acquisition radar and the Rajendra radar**.
- **India's Air Defence Infrastructure**
 - **Missile systems:** India has the Russian S-400 system and the indigenous Akash missile system.
 - **Army's Akashteer system:** It integrates radars, sensors, air defence guns, and communications to generate a real-time operational air picture.
 - **IAF's IACCS (Integrated Air Command and Control System):** It unifies data from multiple assets to enable coordinated detection and interception.
 - **Mission Sudarshan Chakra:** It is an ongoing modernisation programme; DRDO has recently tested the Integrated Air Defence Weapon System.

Japanese Encephalitis (JE)

News: A new study found waning immunity to Japanese encephalitis virus may predispose individuals to more severe dengue, highlighting timing of JE vaccine boosters.

About Japanese Encephalitis (JE)



Figure 33. Source – MoHFW

- Japanese encephalitis virus (JEV) is a **mosquito-borne flavivirus** and a major cause of viral encephalitis in Asia.
- It belongs to the **same genus** as dengue, Zika, yellow fever, and West Nile viruses.
- Most JEV infections are mild or asymptomatic, but **about 1 in 250 becomes severe**, and among this severe cases the fatality rate can be as high as 30%.
- The **incubation period** is 4–14 days.
- **Symptom** : Severe disease presents with high fever, headache, neck stiffness, disorientation, coma, seizures, and spastic paralysis.
- **Transmission through:**
 - Bites of infected **Culex mosquitoes**, mainly **Culex tritaeniorhynchus**.
 - An **enzootic cycle** between mosquitoes, pigs, and/or water birds.
- **Humans**, once infected, **do not develop sufficient viraemia to infect feeding mosquitoes**.
- **Seasonality:** It is a warm-season epidemics in temperate Asia; year-round transmission in tropics/subtropics, intensifying during rains and pre-harvest in rice regions.
- **Treatment:** There is **no specific antiviral therapy** for Japanese Encephalitis. Encephalitis is a **medical emergency** and requires **urgent supportive care**.
- **Prevention**
 - **Vaccination:** **Safe and effective vaccines exist** (inactivated Vero cell-derived, live attenuated, live recombinant). one inactivated and both live vaccines are WHO-prequalified.
 - **Policy:** WHO recommends JE immunization where it is a public health priority, with strong surveillance and a one-time catch-up at introduction.
- **Key facts**
 - First documented JE case: **1871 in Japan**.
 - **Risk areas:** 24 countries in **South-East Asia and Western Pacific Regions** have JEV transmission risk, which includes more than 3 billion people.
 - JE primarily **affects children**.
 - Most **adults** in endemic countries have **natural immunity** after childhood infection, but **individuals of any age may be affected**.

Global Innovation Index (GII) 2025

News: Recently, the World Intellectual Property Organisation's (WIPO) published Global Innovation Index (GII) 2025.

About the Global Innovation Index (GII) 2025

Top 10 Most Innovative Countries in the World 2025:

GII Rank 2025	Country	GII Score 2025	Income Group Rank	Region Rank
1	Switzerland	66	1	1
2	Sweden	62.6	2	2
3	United States	61.7	3	1
4	Republic of Korea	60	4	1
5	Singapore	59.9	5	2
6	United Kingdom	59.1	6	3
7	Finland	57.7	7	4
8	Netherlands (Kingdom of the)	57	8	5
9	Denmark	56.9	9	6
10	China	56.6	1	3

Figure 34. Source: IE

- Published by: The Global Innovation Index (GII) 2025 is published annually by the World Intellectual Property Organisation (WIPO).

- It evaluates 139 economies using more than 80 indicators measuring innovation inputs and outputs.

- The index tracks trends in research and development (R&D), technology creation, market sophistication, and institutional performance.

- Global R&D growth slowed to 2.9 percent in 2024 and is projected to decline further to 2.3 percent in 2025.

- This represents the

lowest level of R&D growth since the 2010 financial crisis.

Rankings

- Switzerland remains the most innovative country in the world according to the GII 2025.
- Sweden ranks second with a GII score of 62.6.
- The United States ranks third with a GII score of 61.7.
- China enters and strengthens its position in the global top ten by leading in patents and technology outputs.

Regional Innovation Highlights

- Europe leads as the most innovative region, with 15 countries in the global top 25, including six in the top 10.
- North America remains strong, led by the United States at rank three and Canada at rank seventeen.
- Southeast Asia, East Asia, and Oceania continue to emerge as global innovation hubs, with six economies in the top 25.

About India's Rank in the GII 2025

- India ranks thirty-eighth globally in the GII 2025, moving up from rank forty-eight in 2020.

- India holds the **first position** among lower-middle-income economies and the **first position** in the **Central and Southern Asia region**.
- India **performs best** in **Knowledge and Technology Outputs**, where it ranks **twenty-second**.
- India also **performs relatively well** in **Market Sophistication**, where it ranks **thirty-eighth**.
- India **shows weaker performance** in **Business Sophistication** (rank **sixty-four**), **Infrastructure** (rank **sixty-one**), and **Institutions** (rank **fifty-eight**).
- India ranks **thirty-eighth globally**, showing steady improvement over the last five years.
- **India lags behind both China and the United States** but continues to climb the innovation rankings.

Speed Skating World Championships 2025

News: The Prime Minister congratulated Anandkumar Velkumar on winning the gold medal at the 2025 Speed Skating World Championships. He became the first Indian to achieve a world title in skating.

About Speed Skating World Championships 2025



Source: thelogicalindian.com

- **2025 edition:** The **2025 Speed Skating World Championships** is organised in **Beidaihe, China**, from **13 to 21 September 2025**.
- **Venue:** **Beidaihe**, a renowned beach resort in Qinhuangdao city, will host the event at the **Beidaihe International Roller Skating Center**, featuring a 200 m indoor track, state-of-the-art facilities, and an outdoor road circuit.
- **First Edition:** The event traces back to the **first edition in 1937**.

- It will bring together the **world's fastest skaters for nine days of competition.**
- **Participation:** Over **40 nations** are expected to compete, including strong teams from **China, India, Chinese Taipei, Korea, Colombia, Italy, France, and the USA.**
- **Events:** The championship includes events like **Men's Sprint Races, Women's Sprint Races, Women's Long-Distance Events and Men's Long-Distance Events.**
- **Event Significance:** This championship marks a **major return of world-class speed skating to China following the World Games**, promising high-speed action, record-breaking performances, and intense international rivalry.

National Policy on Geothermal Energy (2025)

News: The Government of India has recently announced the National Policy on Geothermal Energy (2025) to drive the clean energy transition and advance the nation's Net Zero 2070 commitment.

About the National Policy on Geothermal Energy (2025)



Source: BS

- The **Government of India has notified the National Policy on Geothermal Energy (2025)** to accelerate clean energy transition, diversify renewable sources, and support **India's Net Zero 2070 commitment.**
- **Nodal Ministry:** Ministry of New and Renewable Energy (**MNRE**)
- The policy focuses on **research, innovation, technology development, ecosystem creation, capacity building, and partnerships** to harness the untapped potential of geothermal energy.
- **Scope and Applications:**
 - **Clean Power and Direct Use:** Promotes power generation, district heating, agriculture, aquaculture, and Ground Source Heat Pumps (GSHPs) for space cooling and heating.
 - **Comprehensive Framework:** Provides guidelines for exploration, development, and utilization of geothermal resources in India.

Key Highlights of the Policy

- **Research and Best Practices:** Promotes research, inter-ministerial collaboration, and the adoption of global best practices for geothermal energy development, with regulatory and stewardship responsibilities vested in the Ministry.
- **Integration with National Goals:** Seeks to align geothermal energy development with India's Net Zero (2070) target and broader renewable energy objectives.
- **Diverse Applications:** Focuses on electricity generation, space heating and cooling, agriculture (greenhouses and cold storage), tourism, and desalination.
- **Technological Innovation:** Encourages R&D of advanced systems, including hybrid geothermal-solar plants, retrofitting of abandoned oil wells, and Enhanced/Advanced Geothermal Systems (EGS/AGS).
- **Local Innovation and Partnerships:** Emphasizes indigenous innovation, joint ventures, and the repurposing of existing oil and gas infrastructure.
- **Collaboration:** Promotes partnerships with international geothermal bodies, pioneering nations, state governments, oil and gas companies, and research institutions.
- **Ecosystem Development:** Aims to establish a strong public-private ecosystem to support the long-term growth of the geothermal sector.
- **Capacity Building:** Focuses on knowledge sharing, training, and human resource development within the sector.

Blue Ports Framework

News: The Department of Fisheries (DoF), under the MoFAHD and FAO launched a Technical Cooperation Programme (TCP) and held the first webinar to advance India's Blue Ports framework.

About Blue Ports Framework



Source – Marine Network

Blue Ports Framework	It is a DoF-led approach to build Smart and Integrated Fishing Harbours that blend technological innovation with environmental stewardship , ensuring safer, cleaner, and more efficient post-harvest operations .
Initiative by	Department of Fisheries (DoF), MoFAHD in collaboration with the Food and Agriculture Organization (FAO) under its Technical Cooperation Programme (TCP) .

Aim	1. Strengthen fishing ports' technical capacities for ecological sustainability, economic viability, and social inclusion. 2. Enhance traceability, climate resilience, service delivery, and stakeholder empowerment across the aquatic value chain.
Key features	● Investment: Three pilot harbours approved with a total investment of ₹369.80 crore under PMMSY. ● 3 Pilot Harbours: Vanakbara (Diu), Karaikal (Puducherry), Jakhau (Gujarat). ● Technologies used: IoT devices, sensor networks, satellite communication, data analytics; integration of 5G, artificial intelligence, automation, and digital platforms for real-time decision-making and efficient operations. ● Supporting schemes: Pradhan Mantri Matsya Sampada Yojana (PMMSY) and Fisheries and Aquaculture Infrastructure Development Fund (FIDF).

NE-SPARKS Initiative

News: Union Minister Jyotiraditya M. Scindia interacted virtually with NE-SPARKS student visitors to ISRO HQ.

About NE-SPARKS Initiative



Factly Compilation September 2025

Source – PIB

NE-SPARKS	It is North East Students' Programme for Awareness, Reach, and Knowledge on Space (NE-SPARKS).
Launched by	It is a flagship initiative supported by the Ministry of Development of North-East Region (MDoNER) in collaboration with 8 North Eastern States and ISRO .
Purpose	To ignite curiosity and foster awareness about space science and technology among students from the North Eastern Region (NER) of India.
Eligibility	It envisages exposure visits for 800 meritorious science students (100 from each state of 8 NER) to premier ISRO Centres at Bengaluru.
Time period	Eight batches from April 2025 to December 2025 , with at least one month between batches.
Funding Mechanism	Ministry of Development of North Eastern Region (MDoNER) and State Governments in a 60:40 ratio .
Implementing Ministry	MDoNER
Implementing Agency	North Eastern Space Applications Centre (NESAC) as nodal agency from ISRO , with support from Capacity Building & Public Outreach (CBPO), ISRO HQ. In collaboration with eight NER state governments .
Objectives	Bridge geographical and informational gaps through immersive exposure to India's space research and exploration. To inspire students to envision futures in STEM by witnessing cutting-edge technologies and interacting with eminent scientists and engineers.

Seven Indian sites have been added to UNESCO's Tentative List

News: Seven Indian natural heritage sites have been added to UNESCO's Tentative List, **raising India's total from 62 to 69 properties.**

Seven Indian sites have been added to UNESCO's Tentative List



Figure 35. Source – AIR

- India now has 69 Tentative List sites: **49 cultural, 17 natural, and 3 mixed.**

- Inclusion in the Tentative List is a **prerequisite for nomination to the World Heritage List.**

- This milestone **reflects India's commitment to preserving natural and cultural legacy.**

- The Archaeological Survey of India (ASI) compiled and submitted the entries, receiving appreciation from India's

Permanent Representative to UNESCO.

- **India hosted the 46th World Heritage Committee Session in July 2024 at New Delhi**, with over 2000 delegates from more than 140 countries.
- **7 New sites are –**

Sites	Location	Key Features
Deccan Traps at Panchgani and Mahabaleshwar	Western Ghats of Maharashtra (within the Koyna Wildlife Sanctuary-a UNESCO World Heritage Site.)	● Home to some of the best-preserved and studied lava flows in the world. ● These sites form part of the massive Deccan Traps. ● This the site is identified as geo-heritage site by Geological survey of India.
Geological Heritage of St. Mary's Island Cluster	Karnataka	● Known for its rare columnar basaltic rock formations. ● This island cluster dates back to the Late Cretaceous period, offering a geological snapshot from around 85 million years ago. ● It have been declared as National Geological Monument by GSI since 1978. ● The site falls under Coastal Regulation Zone (CRZ)
Meghalayan Age Caves	Meghalaya	● This cave systems serve as the global reference point for the Meghalayan Age in the Holocene Epoch. ● This reflect significant climate and geological transitions. ● Mawmluh cave has already been listed among the global first 100 geologically important site in the world.

Naga Hill Ophiolite	Nagaland (situated within one of the 18 mega biodiversity hotspots)	● It is a rare exposure of ophiolite rocks. ● These hills represent oceanic crust uplifted onto continental plates—offering deep insights into tectonic processes and mid-ocean ridge dynamics. ● The site overlaps with Fakim Wildlife sanctuary. ● Geological Survey of India has declared it as a National Geological Monument.
Erra Matti Dibbalu (Red Sand Hills)	Andhra Pradesh (coastal tract of Visakhapatnam)	● This site was first documented by William King, the deputy superintendent of the GSI, back in 1886. ● These visually striking red sand formations showcase unique paleo-climatic and coastal geomorphological features that reveal Earth's climatic history and dynamic evolution.
Natural Heritage of Tirumala Hills	Andhra Pradesh (within the Seshachalam Biosphere Reserve and Venkateswara National Park)	● This site features the Eparchaeon Unconformity, refers to a rare and fascinating geological boundary that represents the interface between ancient Precambrian rocks and much younger, overlying geological formations ● It also includes the iconic Silathoranam (Natural Arch).
Varkala Cliffs	Kerala (faces the Arabian Sea)	● The scenic cliffs along Kerala's coastline expose the Warkalli Formation of the Mio-Pliocene age. ● They also feature natural springs and striking erosional landforms, offering both scientific and touristic value.

Corporate Bond Index Derivatives

News: Recently, the Securities and Exchange Board of India and the Reserve Bank of India (RBI) have been in advanced talks to encourage trading in corporate bond index derivatives to deepen the debt market.

About Corporate Bond Index Derivatives



Figure 36. ET

- **Definition:** Corporate bond index derivatives are financial contracts that derive their value from an index of corporate bonds.
 - They allow investors to trade on the overall performance of a basket of bonds, rather than individual bond securities.
- **Purpose:** The primary aim is to deepen the corporate bond market and provide a tool for risk management and speculation.
 - They enable investors to hedge or speculate on the future performance of corporate bonds.
- **Boosting Liquidity:** By introducing these derivatives, authorities aim to enhance liquidity in the corporate bond market, making it more accessible for investors, especially retail and institutional investors.
- **Institutional Dominance:** The corporate bond market is mainly dominated by institutional investors such as banks, insurers, pension funds, and mutual funds, with retail and foreign investors remaining on the fringes.
- **Potential Impact:** If successful, this initiative may stimulate further growth in corporate bond markets, offering more opportunities for investment and fostering a deeper, more liquid market for corporate debt instruments.
- **Challenges:** Previous attempts to boost corporate bond trading via derivatives faced difficulties in gaining traction.
 - However, the current approach focuses on aligning it with equity trading, which may foster quicker adoption.

Chabahar Port

News: Recently, the United States has revoked the sanctions waiver for Iran's Chabahar Port.

About Chabahar Port

- **Location:** It is a deep-water port located in Iran's Sistan-Baluchistan province on the Gulf of Oman, near the mouth of the Strait of Hormuz.
- **It is the only Iranian port** with direct access to the Indian Ocean.
- **Components:** It comprises two terminals: Shahid Beheshti and Shahid Kalantari.
- **Strategic importance:** It is strategically positioned close to Afghanistan, Pakistan, and India, enhancing its role as a regional hub.
 - It acts as a key transit center in the International North-South Transport Corridor (INSTC).
 - INSTC links the Indian Ocean and Persian Gulf to the Caspian Sea via Iran, and onward to northern Europe via Saint Petersburg, Russia.
 - Distances from India: Kandla Port (550 nautical miles) and Mumbai Port (786 nautical miles).

About Chabahar Project – India's Role

- Tripartite agreement signed in May 2016 between India, Iran, and Afghanistan to develop the Shahid Beheshti Terminal.

- It marks **India's first foreign port development project** aims to establish an **international transport and transit corridor** through Chabahar.
- It includes construction of a **rail line from Chabahar Port to Zahedan** in Iran.
- It enables India to **bypass Pakistan** for trade with **Afghanistan and Central Asia**.
- It is expected to serve as a **hub for transit trade** between **India, Iran, and Afghanistan**.
- It provides an **alternative route** to the traditional **Silk Road** passing through **China**.

Gulf of Finland

News: Estonia reported three Russian MiG-31s violated its airspace over the Gulf of Finland for 12 minutes.

About Gulf of Finland



Source – iStock

- **Location:** It is the easternmost **extension of the Baltic Sea** located in **Northern Europe**.
- **Boundaries:** It is bordered by **Finland in the north, Russia in the east** and **Estonia in the south**.
- **Extension:** The Gulf of Finland extends from Saint Petersburg in the east to the Hango Peninsula in the west.
- **Climate:** This region faces a **humid continental climate** with hot summers and relatively **harsh winters**.
- **Coasts feature:** The northern shore is highly curved and rocky, with bays such as **Vyborg Bay** and the **Porkkalanniemi and Hango Peninsulas**,
 - The **southern shore** is smoother, **shallower**, and marked by the **Baltic Klint**.
- **Major rivers:** It receives numerous rivers, notably **Neva and Narva**; others include **Kymi, Luga, Vanta, Pirta**, and more.
- **Major ports:** Some of the major ports in the gulf include the **Russian ports of St. Petersburg and Kronshtadt**; the **Finnish ports of Helsinki, Porkkala, and Kotka**; and the **Estonian port of Tallinn**.
- **Connections:** It is connected to **Lake Saimaa** via the **Saimaa Canal**.
- **Major islands:** The **Kotlin Island** is the largest of the islands.

- **Water property:** It has **very low salinity** and remains **ice-covered for three to five months** each winter.
- **International recognition:** The Gulf of Finland's southern coast was designated a **Ramsar Wetland** on September 13, 1994.

Fast Patrol Vessel ICGS Adamya

News: ICGS Adamya, the first of eight Adamya-class Fast Patrol Vessels, was commissioned at Paradip Port, Odisha, on September 19, 2025.

About Fast Patrol Vessel ICGS Adamya



Figure 37. Source – TH

- It is a Fast Patrol Vessel of the Indian Coast Guard for **surveillance of maritime zones** and other duties **as per the ICG charter** to safeguard India's maritime interests.

- **Developed by:** It is designed and built by **Goa Shipyard Limited** under '**8 FPV Project**'.

- **Naming:** "Adamya" means **indomitable**, reflecting the Coast Guard's commitment to safe, secure, and clean seas.

- **Features**

- It is a **51-metre**, approximately **320-tonne Fast Patrol Vessel** of the Indian Coast Guard and the **lead ship of its class**.
- **Indigenous technology:** It is **first ICG ship** fitted with indigenously developed **two Controllable Pitch Propellers (CPP)** and **gearboxes** for superior maneuverability and operational flexibility.
- It has Integrated Bridge System, Integrated Platform Management System, and Automated Power Management System augment efficiency and automation.
- **Propulsion and performance:** It is powered by **two 3,000 KW diesel engines**, it attains a **maximum speed of 28 knots** and has an **endurance of 1,500 nautical miles at economical speed** for sustained patrols..
- **Weapons and systems:** Adamya is equipped with a **30 mm CRN-91 gun** and **two 12.7 mm** stabilised remote-controlled machine guns, all supported by fire-control systems for precise engagements.
- **Strategic role:** It will strengthen maritime **surveillance, deterrence, and quick reaction on the Eastern Seaboard**, reinforcing India's maritime security architecture.

Universal Postal Union (UPU)

News: India has been re-elected to the Council of Administration (CA) and the Postal Operations Council (POC) of the Universal Postal Union during the 28th UPU Congress in Dubai, United Arab Emirates.

About Universal Postal Union (UPU)



Source – UPU

- It is a **specialized agency** of the United Nations responsible for **coordinating international postal policies** and ensuring a **seamless global postal system**.
- It is the **second oldest international organization** worldwide.

Key facts about UPU

Established	Established by the Treaty of Bern in 1874.
Headquarters	Berne, Switzerland
Members	● Any UN member state may join the UPU. ● A non-UN state may join if at least two-thirds of UPU members approve. ● The UPU currently has 192 member countries. ● India has been a member since 1874 and continues to actively participate.
Functions	● It performs advisory, mediating, and liaison roles and provides technical assistance where needed. ● It frames rules for international mail exchanges. ● It issues recommendations to grow mail, parcel, and financial services and improve service quality.
Governance Structure	I. Universal Postal Congress: Congress is the supreme authority of the Universal Postal Union (UPU) and meets every four years. II. Council of Administration: The Council ensures the continuity of the UPU's work between Congresses, supervises its activities and studies regulatory, administrative, legislative and legal issues. III. Postal Operations Council: The Postal Operations Council (POC) is the technical and operational mind of the UPU and consists of 48 member countries, elected during Congress. IV. International Bureau: Fulfilling a secretariat function, the International Bureau provides logistical and technical support to the UPU's bodies.

- **UPI-UPU Integration project:** Launch of the UPI-UPU Integration project (Department of Posts, NPCI International, UPU) to **link UPI with the UPU Interconnection Platform** for secure, affordable cross-border remittances.

Supercomputers

News: A powerful new supercomputer is being developed that will place Essex at the centre of the UK's artificial intelligence (AI) revolution.

About Supercomputers

- Supercomputers are the **most powerful computers** in the world.
- They **solve very large, complex, and calculation-heavy problems** that normal computers cannot handle.
- A supercomputer is more like a **giant data center** full of cabinets connected together.
- A supercomputer is made up of **thousands of processors working at the same time**. These **processors are arranged in layers**, including CPUs (Central Processing Units) and GPUs (Graphics Processing Units).
- **Each processor handles a small part of the problem** and together they provide answers much faster than a single processor could.
- They use **parallel computing**, which means many calculations are done simultaneously.
- Supercomputers **use a lot of electricity as they need efficient power distribution and cooling systems** to avoid overheating.
- **Components of a Supercomputer**
 - **Processors:** CPUs and GPUs perform calculations.
 - **Nodes:** Groups of processors connected together to work as a single unit.
 - **Network Connection:** High-speed connections link nodes so data can be transferred quickly.
 - **Memory & Storage:** Each node has its own memory, and large storage systems hold huge amounts of data.
 - **Cooling Systems:** Because they produce a lot of heat, supercomputers need advanced cooling with air, water, or special liquids.
- **Software Used in Supercomputers**
 - Special software **manages how thousands of processors work together**.
 - It **schedules tasks, controls data flow**, and ensures efficient communication.
 - Programmers use special languages and tools like **MPI (Message Passing Interface)** or **OpenMP** to write software for supercomputers.
 - A **scheduler** decides which processor runs which task and for how long.
- **Uses of Supercomputers**
 - Supercomputers are used for **weather forecasting and climate modeling** to predict weather patterns and study changes in the environment.
 - They are used in **space research and simulations** to model the behavior of planets, stars, and other celestial bodies.
 - Supercomputers help **discover new medicines** by simulating chemical reactions and analyzing large biological datasets.
 - They are used for **studying black holes, gravitational waves, and nuclear reactions** to understand complex physical phenomena.
 - Supercomputers are also used for **running artificial intelligence and machine learning models** to process massive amounts of data and improve accuracy.

India and Supercomputers

- India's supercomputing journey began in the late 1980s when Western countries refused to export high-end machines.
- This led to the creation of the **Centre for Development of Advanced Computing (C-DAC)** in **1988**.
- India developed its **first series** of supercomputers called **PARAM** in the **1990s**.
- Today, India has powerful systems like **PARAM Siddhi-AI** at C-DAC and **AIRAWAT** for AI computing.
- Facilities like **NCMRWF (Noida)** and **IITM (Pune)** use supercomputers for weather forecasting and climate modeling.
- **National Supercomputing Mission (NSM):** India launched the **National Supercomputing Mission (NSM)** in **2015** as a **joint project** of the Department of Science and Technology (**DST**) and the Ministry of Electronics and IT (**MeitY**), **implemented by C-DAC and the Indian Institute of Science (IISc), Bengaluru**.
 - **Goal:** Its goal is to build a **network of 70+ high-performance computing facilities** across India, with capacities ranging from teraflops to petaflops, and to develop indigenous hardware and software.
 - India's current **fastest supercomputer is AIRAWAT-PSAI at C-DAC in Pune**; it's ranked inside the **top 100** in the canonical top 500 list worldwide.

Exercise Amogh Fury

News: The Indian Army's Sapta Shakti Command carried out the 'AMOGH FURY' integrated firepower exercise at the Mahajan Field Firing Ranges in Rajasthan.

About Exercise Amogh Fury



Source: India Today

Conducted By	Sapta Shakti Command of the Indian Army.
--------------	--

Location	Mahajan Field Firing Ranges, Thar Desert, Rajasthan .
Purpose	To test combat power, coordination, and operational readiness under real-time battle conditions.
Objectives	● It assesses preparedness for multi-domain operations. ● It demonstrates integration of combat arms using modern technologies. ● It refines procedures to counter emerging threats. ● It provides pragmatic training under realistic combat conditions.
Key Features	● Integrated Firepower Display: It showcased integrated manoeuvres involving battle tanks, infantry combat vehicles, attack helicopters, long-range artillery, and drones. ● These assets were deployed together to highlight the Army's ability to synchronise ground and air operations for both offensive and defensive actions. ● A major emphasis of 'Amogh Fury' was on integrating modern technologies such as network-centric communication systems, command-and-control architecture, and real-time surveillance and targeting systems. ● These technologies created a unified operational picture that enhanced decision-making and coordination across various units.
Significance	● The exercise provided realistic combat training for all ranks, refining procedures to counter emerging threats. ● It also strengthened synergy among combat arms, support units, and services, showcasing the Army's efforts to develop cohesive, technology-driven responses for modern warfare.

Industrial Park Rating System (IPRS) 3.0

News: The Industrial Park Rating System (IPRS) 3.0 was launched recently by the Union Minister of Commerce & Industry in New Delhi.

About Industrial Park Rating System (IPRS) 3.0



Figure 38. Source – FISME

- It is the **latest iteration** of a government initiative aimed at **benchmarking** and **enhancing the competitiveness** of industrial parks across India.
- **Launch:** IPRS 3.0 was launched on **20 September 2025** by Union Minister of Commerce & Industry in New Delhi.
- **Developed by:** DPIIT with support from the **Asian Development Bank (ADB)**.

- **Objective:** To benchmark, assess and improve **industrial parks' competitiveness and infrastructure** in India.
- **Purpose and Benefits:**
 - **Reliable Data:** Provides stakeholders and investors with **credible, transparent information**.
 - **Benchmarking:** Allows comparison of **industrial park performance across the country**.
 - **Best Practices:** Encourages **adoption of global standards** and sustainable practices.
 - **Policy Support:** Helps policymakers **design targeted interventions** and improve competitiveness.
 - **Boost to Make in India:** Strengthens India's industrial ecosystem and **global competitiveness**.
- **Key Features of IPRS 3.0**
 - IPRS 3.0 introduces **expanded parameters such as sustainability, green infrastructure, logistics connectivity, digitalization, skill linkages, and enhanced tenant feedback mechanisms**.
 - Under IPRS 3.0, industrial parks will be **categorized into Leaders, Challengers, and Aspirers based on their performance** across key indicators.
 - The system will provide **clear and transparent ratings to enable better benchmarking of facilities and competitiveness**.
- **Impact on States and Union Territories**
 - **Showcase Top Parks:** States and Union Territories will be able to showcase their best-performing industrial parks under the new rating system.
 - **Identify Gaps:** The initiative will help identify gaps in infrastructure and services that require improvement.
 - **Attract Investments:** IPRS 3.0 will **encourage investments from both domestic and global investors by providing credible data**.
 - **Employment Generation:** The system will also **support employment generation and skill development initiatives**.
 - **Strengthen Ecosystem:** It will strengthen the industrial and investment ecosystem in different regions of the country

Dadasaheb Phalke Award

News: Malayalam superstar **Mohanlal** has been selected as the recipient of the **Dadasaheb Phalke Award 2023**.

About Dadasaheb Phalke Award



Source: NEWS18

- The **Dadasaheb Phalke Award** was instituted in **1969** by the Government of India.
- The award was established to **commemorate Dadasaheb Phalke**, who is regarded as the father of Indian cinema.
- It is the **highest honour in Indian cinema**.
- It is presented to individuals for their **outstanding contribution to the growth and development of Indian cinema**.
- **Award:** The award comprises a **Swarna Kamal (Golden Lotus)** medallion, a **ceremonial shawl**, and a **cash prize of ₹10 lakh**.
- The **first recipient** of the award was **Devika Rani**.
- Dadasaheb Phalke directed **India's first full-length feature film, Raja Harishchandra, in 1913**.
- Among the recent honourees are **Mithun Chakraborty (2022)**, **Waheeda Rehman (2021)**, and **Asha Parekh (2020)**.

Data User's Conference on the Time Use Survey (TUS), 2024

News: Recently, the National Statistics Office (NSO), Ministry of Statistics and Programme Implementation (MoSPI), in collaboration with Centre for Development Studies (CDS), Thiruvananthapuram organised a Data User's Conference on Time Use Survey (TUS), 2024.

About Time Use Survey (TUS), 2024

AVERAGE TIME SPENT IN A DAY PER PERSON				
	2019		2024	
	Male	Female	Male	Female
Self-care and maintenance	729	723	710	706
Employment and related activities	459	333	473	341
Learning	426	423	415	413
Unpaid domestic services for household members	97	299	88	289
Culture, leisure, mass media, sports	164	165	177	164
Socialising and communication, community participation and religious practice	147	139	138	139
Unpaid volunteer, trainee and other unpaid work	102	99	139	108
Unpaid caregiving services for household members	76	134	75	137
Production of goods for own final use	198	116	137	104

All units in minutes

Source: MoSPI

Figure 39. Source – NSO

- **Period conducted:** January – December 2024.
- **Conducted By:** National Statistics Office (NSO), Ministry of Statistics and Programme Implementation (MoSPI)
- **It is the second All-India Survey** builds upon the first all-India TUS conducted in 2019.
- **Purpose:** To measure how individuals allocate their time to various **paid, unpaid, and other activities** over a **24-hour reference period**.
- **Objectives of TUS:**
 - It measures participation of men and women in paid and unpaid activities.

- It provides data on unpaid caregiving, volunteer work, and unpaid domestic services.
- It captures time spent on learning, socialising, leisure, culture, self-care, and other activities.
- It generates comparative insights between 2019 and 2024 to track shifts in time use patterns.

About Time Use Survey (TUS), 2024

- **Data Collection Method:** CAPI (Computer-Assisted Personal Interviews).
- **Reference Period:** 24 hours (from 4:00 AM of the previous day to 4:00 AM on the day of the interview).
- **Recording:** Activities logged in 30-minute slots; up to three activities per slot if ≥10 minutes were spent.
- **Population Covered:** Persons aged 6 years and above.
- **Coverage**
 - **Households Covered:** 1,39,487 (Rural: 83,247; Urban: 56,240).
 - **Individuals Covered:** 4,54,192 persons aged 6+ years (Rural: 2,85,389; Urban: 1,68,803).
- **Major Indicators Produced:**
 - **Participation Rate:** Percentage of persons performing an activity during the day.
 - **Average Time Spent per Participant:** Time spent per day by only those participating in the activity.
 - **Average Time Spent per Person:** Time spent per day by the whole population, including non-participants—helps allocate the total 1440 minutes/day across activities.

Key Highlights of TUS, 2024

- **Rise in Employment Participation:** 75% of males and 25% of females (age 15–59) participated in employment-related activities.
- **Shift from Unpaid to Paid Work (Women):** Time spent by females in unpaid domestic services reduced from 315 minutes/day (2019) to 305 minutes/day (2024).
- **Caregiving Activities:**
 - 41% of females (age 15–59) engaged in caregiving for household members vs. 21.4% of males.
 - **Average time spent per day:** Females 140 minutes; Males 74 minutes.
- **Producing Goods for Own Final Use:** 24.6% of rural population aged 15–59 participated, spending 121 minutes/day.
- **Learning Activities (Children 6–14 years):** 89.3% participated, spending 413 minutes/day.
- **Culture, Leisure & Sports:** People aged 6+ spent 11% of their day in these activities (2019: 9.9%).
- **Self-Care and Maintenance:** Persons aged 6+ spent 708 minutes/day (Females 706; Males 710)

CPCB Report on River Pollution

News: The CPCB's latest assessment indicates a slight decline in the number of polluted river stretches across India.

About polluted river stretch



- According to CPCB, a “polluted river stretch” is where **two or more polluted locations occur in a continuous sequence on a river where BOD levels exceed 3 mg/L, rendering water unfit for bathing.**
- **Classification of Pollution Levels**
 - CPCB categorizes polluted river stretches into **five priority categories** based on BOD.
 - **Priority Class V:** BOD 3.1–6 mg/L (least polluted, needs low intervention).
 - **Priority Class I:** BOD exceeding 30 mg/L (most polluted, needs urgent attention).
 - **BOD < 3 mg/L:** Generally fit for bathing.

Findings of CPCB Report on River Pollution

- **Marginal Improvement:** The Central Pollution Control Board’s (CPCB) 2023 assessment shows a slight improvement in river water quality, with the number of polluted stretches reducing from **311 in 2022 to 296 in 2023**, covering **271 rivers across 32 states and Union Territories.**
- **Most Affected States:** Maharashtra remains the worst affected with **54 polluted river stretches.** Other states with significant pollution include **Kerala (31), Madhya Pradesh and Manipur (18 each), and Karnataka (14).**
- **Priority Classifications**
 - **Priority I (BOD > 30 mg/L)** – Most polluted stretches needing urgent intervention dropped from **46 in 2022 to 37 in 2023.** Notable examples include the **Yamuna (Delhi), Sabarmati (Ahmedabad), Chambal (Madhya Pradesh),** and parts of the **Tungabhadra and Sarabanga rivers.**
 - **Priority V (BOD 3.1–6 mg/L)** – Less polluted stretches requiring minimal intervention.
- **Rivers Showing Deterioration:** Despite overall gains, certain rivers show worsening quality, including the **Jhelum (J&K), Ganga and Sikraha (Bihar), Hasdeo and Mahanadi (Chhattisgarh), Cauvery and Tungabhadra (Karnataka), Periyar (Kerala), and Krishna (Telangana).**
- **Long-Term Monitoring:** CPCB, along with State Pollution Control Boards, monitors water quality at **over 4,700 locations** under the **National Water Quality Monitoring Programme**, tracking rivers, lakes, drains, and canals.
- **Institutional Interventions:** Following the **2018 National Green Tribunal (NGT) directive**, all states are required to develop **river rejuvenation action plans.** The current CPCB report highlights **catchment area management, sewage treatment, and floodplain protection** as key measures to control river pollution.

Ballon d'Or Award, 2025

News: The 69th Ballon d'Or ceremony will be held on September 22, 2025, at the Théâtre du Châtelet in Paris.

About Ballon d'Or Award, 2025

- The Ballon d'Or is the **most prestigious individual award** in football, presented annually by **France Football since 1956**.
- It honors the **best football players worldwide based on their performances** during the previous season.
- The Ballon d'Or was **first awarded in 1956** and was initially restricted to European players.
- In 1995, **eligibility expanded to include all players active in European clubs**.
- **By 2007**, it became a global award **open to all professional footballers** worldwide.
- The winner of the Ballon d'Or is **chosen by an international panel of journalists**.
- Each country in the top 100 of the **FIFA rankings is represented by one journalist on the voting panel**.
- Jurors rank their top ten players, and points are assigned according to these rankings to determine the final winner.
- **New categories:** New categories have been introduced **this year 2025**, including-
 - Women's Yashin Trophy, the Women's Gerd Müller Trophy, and the Women's Kopa Trophy, to celebrate the **achievements of female players**.
- **Notable Winners:** Lionel Messi holds the record for the most Ballon d'Or titles, having won eight times.
 - Cristiano Ronaldo has won the award five times.
- **2025 editions:** **Ousmane Dembélé** was crowned the world's best player of the season, winning the Ballon d'Or in a triumphant night for his club Paris Saint-Germain.
 - Barcelona's **Aitana Bonmatí**, a consistent trophy winner, secured the women's award on Monday.

National e-Governance Awards (NAeG) 2025

News: Recently, the National e-Governance Awards (NAeG) 2025 were presented during the 28th National Conference on e-Governance (NCeG).

About National e-Governance Awards (NAeG) 2025



- The **National e-Governance Awards (NAeG) 2025** were presented during the **28th National Conference on e-Governance (NCeG)**.
- **Administered by:** Instituted by the **Department of Administrative Reforms and Public Grievances (DARPG)** in collaboration with the **Ministry of Panchayati Raj (MoPR)**.

- This is the **first time a category has been created for grassroots-level initiatives in Gram Panchayats** for deepening digital service delivery.
- It highlights the **government's vision that "Good Governance is best delivered through Digital Governance."**
- **Award Categories and Winners**
 - **Gold Award:** Rohini Gram Panchayat, Dhule District, **Maharashtra**.
 - **Silver Award:** West Majlishpur Gram Panchayat, West Tripura District, **Tripura**.
 - **Jury Awards:** Palsana Gram Panchayat, Surat District, **Gujarat** and Suakati Gram Panchayat, Kendujhar District, **Odisha**.
- **Other noticeable Awardees**
 - **MP's Sampada 2.0 initiative** has won the **National e-Governance Gold Award 2025**, recognized for making property and document registration fully paperless.
- **Rewards given**
 - Each award includes a **trophy, a certificate, and financial incentives**.
 - **Gold Award winners receive Rs.10 lakh**, and **Silver Award winners receive Rs.5 lakh**.
 - The financial incentives must be **reinvested in strengthening citizen-centric initiatives**

Maitri 2.0 Cross-Incubation Programme

News: The Indian Council of Agricultural Research (ICAR) launched the second edition of the Brazil-India Cross-Incubation Programme in Agritech (Maitri 2.0) on 22 September 2025 in New Delhi.

About Maitri 2.0 Cross-Incubation Programme



Source – ICAR

- **Maitri 2.0** is the **second edition** of the **India-Brazil Cross-Incubation Programme in Agritech**.
- **Launched by:** It is launched by the **Indian Council of Agricultural Research (ICAR)**.
- **Aim:** To foster innovation-driven growth and collaboration between Indian and Brazilian **agri-tech ecosystems**.
- It reflects the **broader Brazil-India strategic partnership**, aligning with the leaders' shared vision for cooperation in agriculture, emerging technologies, and food and nutritional security.
- **Key Features of Maitri 2.0**
 - **Cross-Incubation and Startup Linkages:** It promotes exchange of best practices, technologies, and business models.

- **Innovation-Driven Collaboration:** It focuses on sustainable agriculture, digital technologies, value-chain development, and climate-resilient practices through joint research to address food security, extreme weather, and climate change.
- **IP and Commercialization Support:** It builds on ICAR's portfolio of **1,800+ patents and 5,000+ licensing agreements** and also facilitates technology transfer, joint IP ownership, and equitable commercialization.
- **Five-Day Cross-Border Agri-Tech Event:** It brings together policymakers, venture investors, corporates, and early-stage as well as growth-stage startups from both nations.
- **Aligned With India–Brazil Roadmap:** It implements **two pillars** from the bilateral **10-year roadmap: Food Security and Agricultural Cooperation and Science, Technology & Innovation Cooperation.**

Bagram Air Base

News: The Taliban administration has reportedly turned down U.S. President Donald Trump's proposal to reclaim the Bagram Air Base.

About Bagram Air Base



Figure 40. Source – Daily Mail

- **Location:** It is the **largest military airfield in Afghanistan**, located north of **Kabul**.
- **Strategic importance:** It is situated in a **strategic location** near **Iran, Pakistan, China's Xinjiang province, and Central Asia**.
- **Origin:** The base was **built by the Soviet Union during the Cold War** and used for its operations until the late 1980s.
 - After the U.S. entered Afghanistan in **2001**, it **modernized and expanded the base**.
- It served as a **central hub for air**

missions, intelligence gathering, and logistics throughout the **war against the Taliban and Al Qaeda**.

- The air base had **runways longer than many international airports**, hardened shelters, hospitals, and large fuel depots.
- Bagram housed a **large prison complex** where detainees were kept.

Tirah Valley

News: Many people died, and several houses were destroyed in an explosion that occurred recently in the Tirah Valley of Pakistan's Khyber Pakhtunkhwa province.

About Tirah Valley



Figure 41. Source: Tribune

- **Location:** Tirah Valley is a mountainous tract in west-central Khyber Pakhtunkhwa province, Pakistan.
 - It is positioned between **Khyber Pass** and **Khanki Valley**.
- **Expanse:** It covers about **600–700 square miles** and comprises **five main valleys**: **Maidan, Rajgul, Waran, Bara, and Mastura**.
- **Rivers:** The region is watered by the **Mastura, Khanki, and Khurmana rivers**, which originate near **Mount Mitta** in the **Spin Range**.
- At **Mount Mitta**, the **Spin Range** splits into several branches, creating the valleys of Tirah at elevations of **5,000–7,000 feet (1,500–2,100 metres)**.
- **Strategic position:** It is situated close to the **Afghanistan–Pakistan border**, making it strategically sensitive.
 - It has historically served as a **corridor between South Asia and Central Asia**, contested by the **Mughals, British, and modern Pakistan**.
- It is noted for its **fertile valleys, terraced agriculture**.
 - It possesses **fertile alluvial soil**, with **walnut and mulberry trees** and extensive **summer pastures**.
- **Mountain passes:** It is characterised by high mountain passes – **Sampagha, Tseri Kandao, and Saran Sar**.
- **Tribes found:** **Pashtun tribes** mainly **Afridis** and **Orakzais**.
 - Also, includes minority **Sikh traders** and **Hamsaya** communities.
- **Strategic importance:** Tirah Valley has historically been difficult to control and has served as a critical zone between **South Asia and Central Asia** because of its **location and rugged terrain**

World Food India 2025

News: The Ministry of Food Processing Industries (MoFPI) hosted the fourth edition of World Food India (WFI) 2025 from 25th to 28th September 2025 at Bharat Mandapam, New Delhi.

About World Food India 2025



Source: PIB

- World Food India (WFI) is a **gateway to the Indian food economy and an opportunity to showcase, connect, and collaborate.**
- **Organized by:** Ministry of Food Processing Industries
- WFI is the **largest gathering of investors, manufacturers, producers, food processors, policy makers, and organizations** from the global food ecosystem.
- **Aim:** To provides opportunities for both investment and trade in the food processing sector for leading Indian and international companies.
- **WFI 2025 revolved around five key pillars:**
 - Sustainability and Net Zero Food Processing
 - India as a Global Food Processing Hub
 - Frontiers in Food Processing, Products and Packaging Technologies
 - Food for Nutrition, Health and Wellness
 - Livestock & Marine Products Accelerating the Indian Rural Economy
- **Some of the features of event**
 - **Participation:** The global food event drew participation from **over 21 countries, 21 Indian States/UTs, 10 Central Ministries, and 5 allied government bodies.**
 - **Partner Countries:** New Zealand and Saudi Arabia
 - **Focus Countries:** Japan, Russia, UAE, and Vietnam
 - **Participation Scale:** 1,700+ exhibitors, 500+ international buyers, and delegates from over 100 nations
 - **3rd Global Food Regulators Summit (FSSAI):** Aimed at promoting the harmonisation of international food safety standards.
 - **Knowledge Exchange:** More than 45 sessions, including thematic discussions, state- and country-focused conferences, and CXO roundtables featuring over 100 global agri-food leaders
 - **24th India International Seafood Show (SEAI):** Showcasing India's growing seafood export potential.
 - **Reverse Buyer-Seller Meet (APEDA):** Bringing together over 1,000 buyers to strengthen global trade linkages.

- **Special Exhibitions:** Featuring international, state, and ministry pavilions along with dedicated spaces such as the Pet Food Pavilion, Technology Pavilion, and the MoFPI Start-up Innovation Pavilion.

Siyom River

News: Recently, Prime Minister Narendra Modi laid the foundation stones for projects, including two hydropower plants in the Shi Yomi district along the border with China.

About Siyom River



Figure 42. Source – IE

- **Location:** It flows through Arunachal Pradesh.
- **Origin:** It originates in the Himalayan ranges near the India-China border and passes through the West Siang district.
- **Tributary:** The river is one of the tributaries of the Brahmaputra River.
- **Length and Geography:** With an approximate length of 270 kilometers, the river is flanked by lush forests, steep hills, and scenic valleys, making it one of the most picturesque rivers of Arunachal Pradesh.
- The Mouling National Park is located on the east bank of the Siyom river.
- **Agricultural Importance:** It serves as an essential source of water for irrigation and other agricultural activities in the surrounding areas.
- **Adventure Tourism:** It is a popular destination for river rafting and kayaking due to its rapids of varying difficulty levels, attracting adventure sports enthusiasts from across India.
- **Hydroelectric Potential:** Several small hydroelectric power projects have been established along the river, contributing to electricity generation in the region.
- **Aquatic Biodiversity:** The river supports a diverse range of aquatic life, including various fish species.
 - **Fishing** remains an important livelihood for local communities.
- **Cultural Significance:** Indigenous communities living along the riverbanks maintain deep cultural and spiritual ties with the river.
- **Environmental Challenges:** Deforestation, pollution, and dam construction pose serious threats to the river's ecosystem and the well-being of dependent communities.

Almatti Dam

News: Telangana leaders oppose Karnataka's reported plan to raise Almatti Dam height from 519 m to 524 m, warning acute water shortages for Telangana's farmers.

About Almatti Dam



Figure 43. Source – Mongabay

- The dam is a **hydroelectric and irrigation facility** on the **Krishna river**.
- **Location and river:** It is located in **Vijayapura (Bijapur) district, North Karnataka**.
- It is also known as the **Lal Bahadur Shastri Dam**.
- It was **completed in July 2005**.
- **Objective:** The dam targets an **annual output 560 MU (GWh)**.
- It is a part of the **Upper Krishna Project** in north Karnataka.
- The project involves constructing

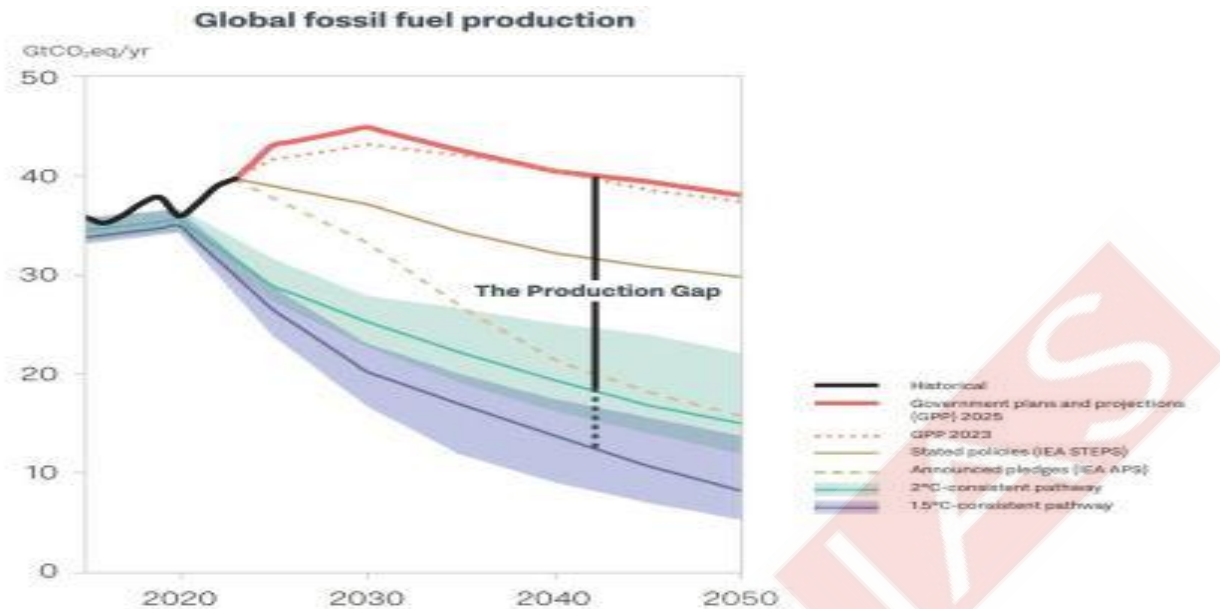
two dams across the Krishna River—Almatti and Narayanpur—and a network of canals to irrigate drought-prone areas.

- **Disputes**
 - **States involved:** All the **four** riparian states of Krishna River – **Karnataka, Telangana, Andhra Pradesh and Maharashtra**.
 - **Karnataka's position:** Karnataka **decided to raise the height** of the dam, claiming that it aligns with the **2013 Krishna Water Disputes Tribunal-II (KWDT-II) Award (Bachawat Commission)**.
 - **Telangana's concerns:** Telangana oppose **Karnataka's reported** plan to raise the **Almatti Dam height**, warning that it will could face acute water scarcity.
 - **Maharashtra's concerns:** Maharashtra fears submergence and reduced downstream water for irrigation and drinking.

Production Gap Report 2025

News: The Production Gap Report 2025, released by the Stockholm Environment Institute (SEI), warns that Paris agreement temperature goals are slipping further out of reach.

About Production Gap Report 2025



Source – PGR 2025

- It **tracks the misalignment between governments' planned** fossil fuel production and global production levels consistent with **limiting global warming to 1.5°C or 2° C**.
- **Published by:** It is published by Stockholm Environment Institute (SEI), Climate Analytics, and International Institute for Sustainable Development (IISD).
 - It is backed by the UN.
- **2025 Edition:** This is the **fifth edition** of the report, which was **first issued in 2019**.
- The report, which is **externally peer reviewed**, **represents a collaboration of several research and academic institutions**, including inputs and reviews from more than 50 experts spanning all parts of the globe.
- This year's publication **updates the analysis presented in the 2023 edition**.

Key findings of Production Gap Report 2025

- **Overshoot of Paris-consistent pathways:** Planned fossil fuel production in 2030 **exceeds 1.5°C-consistent levels by more than 120 %** and **2°C-consistent levels by 77 %**.
- **Coal is the most misaligned:** Global **coal output** in 2030 is projected to be **500 % above the median 1.5°C pathway** and **330 % above the 2°C benchmark**.
- **Oil and gas gaps remain stark:** Planned **2030 production** exceeds Paris-aligned limits by **31 % for oil** and **92 % for gas**.
- **Extended timelines for expansion:** Governments plan higher coal through 2035, gas through 2050, and oil well beyond mid-century compared to projections made two years ago.

DRAVYA Portal

News: The Dravya Portal (Digitized Retrieval Application for Versatile Yardstick of AYUSH Substances) is launched by the Ministry of AYUSH to catalogue comprehensive data on Ayurvedic medicinal substances and products.

About DRAVYA Portal

- It is the largest collection of data on **Ayurvedic Ingredients and Products** made easily available to everyone.
- It is an ever growing, ever evolving database that **covers classical Ayurveda textbooks** as well as **contemporary scientific literature and field studies**.
- Dravya has a large **searchable database** of:
 - Herbs, metals, minerals, animal products, gemstones used in Ayurveda.
 - Classical Ayurvedic preparations from ancient texts.
 - Proprietary formulations / products from companies.
- **Owned and managed by Kerala Ayurveda Private Limited.**
- **Digital Reference Library:** It serves as a standardized knowledge base facilitating research, product development, and regulation based on scientific validation and traditional knowledge synergy.
- **Features**
 - The portal supports **integrative healthcare** by providing structured clinical pathways, such as combining Ayurvedic treatment with conventional oncology protocols.
 - The portal is integrated with national health campaigns and **AI-driven wellness data initiatives** to strengthen policy formulation and preventive healthcare strategies.
 - **Multiple-language search support:** names in over 20 Indian & international languages.
 - **Advanced search filters:** for example, filtering by taste, potency, effect (e.g., reducing Pitta), or by indication (disease / condition) etc.
 - **Two versions: Essential (free) and Professional (paid / subscription).** Professional version unlocks more features (detailed content, advanced filters, high-resolution images, dosage/contraindications etc.).

SAHAJ Programme

News: Department of Social Justice & Empowerment has launched 2 flagship initiatives under SAHAJ Program to advance senior citizens' well-being.

About SAHAJ Programme



Figure 44. Source – Outlook Money

- **Shrinkhala – HUM (“Anubhav aur Utsaah ka Sangam”)** — a talk series that fosters dialogue between senior citizens, policymakers, NGOs, and civil society.

- SAHAJ is an initiative by the **Ministry of Social Justice & Empowerment (MoSJE)**.

- It aims to make ageing more dignified, inclusive, and to make elders seen as contributors, not just beneficiaries.

- It includes two major components:

- **Vridha Mitra Toolkit** — designed to bridge the gap between senior citizens' needs and policymaking, especially at the

- The **Vriddha Mitra Toolkit** was developed by **SCHOOL** (Society of Community Health Oriented Operational Links).
 - It will be used at the grassroots level — community leaders, volunteers, etc. — to assess and articulate elders' needs.
- The **Talk Series (Shrinkhala)** serves as an annual event to maintain momentum and dialogue among stakeholders.

Key Features

- **Empathy in Policy:** Vriddha Mitra Toolkit is meant to bring senior citizens' real needs into the design and implementation of policies, especially in rural/grassroots areas.
- **Intergenerational connections:** Encouraging youth participation to reduce social isolation among elderly.
- **Community-based elder care models:** Highlighting successful community innovations and encouraging replication.
- **Platform for voice and dialogue:** Shrinkhala Talk Series gives a space for storytelling, lived experiences, to influence how programmes are made and delivered.

Tamil Nadu Coastal Restoration Mission (TN-SHORE)

News: The Tamil Nadu Government has launched the Tamil Nadu Sustainably Harnessing Ocean Resources and Blue Economy (TN-SHORE) initiative, also known as the Tamil Nadu Coastal Restoration Mission, with a total investment of ₹1,675 crore over the next five years.

About Tamil Nadu Coastal Restoration Mission (TN-SHORE)



Figure 45. Source: TH

- The Tamil Nadu Government has signed MoUs with the United Nations Environment Programme and the M.S. Swaminathan Research Foundation to support environmental projects under TN-SHORE.

- **Aim:** TN-SHORE aims to **restore 30,000 hectares of**

seascapes, safeguard endangered species like turtles and dugongs, and promote sustainable practices such as eco-tourism and plastic waste management.

- **Funding:** TN-SHORE is a **₹1,675-crore initiative approved in September 2025** to strengthen Tamil Nadu's coastal resilience and economy. About ₹1,000 crore will be funded by the World Bank, while the State Government will contribute the remaining share.

- **Monitoring Mechanism** – The entire mission will be overseen by the **Tamil Nadu Green Climate Company**, ensuring transparency, effective implementation, and outcome tracking.
- **A key component of TN-SHORE focuses on mangrove plantation and restoration**, with plans to rehabilitate a total of 1,000 hectares of mangroves.
- **Community Benefits:** Under the mission, World Bank funds will go directly to **village mangrove councils**, which consist of local residents. Each council will have a community member as president and the Forest Range Officer as the member-secretary
- **Tamil Nadu Blue Carbon Agency:** A special-purpose vehicle, the **Tamil Nadu Blue Carbon Agency**, will be established to oversee the **preservation and restoration of coastal ecosystems** such as mangroves, seagrass, and salt marshes. This agency will also **create a framework for trading carbon credits**.
- **Legal Protection for Mangroves** – The State Government is moving to bring mangroves under legal protection by **notifying them as reserve forests**. Potential new plantation sites include abandoned aquaculture ponds, disused salt pans, degraded lands, and gaps in existing mangrove patches.

Barren Island

News: Recently, active volcano on Barren Island has erupted not once, but twice within a week.

About Barren Island



Figure 46. Source: Volcano discovery

- **Location:** It is located in the **Andaman Sea**, approximately **138 kilometres** northeast of **Sri Vijaya Puram**.
- **Status:** It is **uninhabited island** characterized by **rugged volcanic cones**, **ash deposits**, and **sparse vegetation**.
- It is **India's only active volcano** and **South Asia's only confirmed active volcanic site**.
- **Geological Origin:** It is formed at the **convergent boundary of the Indian and**

Burmese tectonic plates.

- **Age:** Oldest lava flows date back about 1.6 million years on oceanic crust.
- **Size:** The island covers an area of approximately **three square kilometres**.
- Its **highest point reaches 354 metres** above sea level.
- The volcano features a **two-kilometre-wide caldera**, which was formed by the **collapse of an earlier volcanic cone**.
- The **first recorded eruption occurred in 1787**. Subsequent notable eruptions took place in 1991, from 2005 to 2007, in 2017, in 2022, and most recently in 2025.
- These eruptions have **generally been of low intensity**, with a **Volcanic Explosivity Index of 2**, producing **mild lava flows and ash clouds**.

- The **terrain is harsh and supports minimal vegetation**. Past eruptions have significantly reduced local bird populations and other fauna, leading to decreased biodiversity in the area.
- **Importance:** Geologically, this volcano is important as **it is the only active subaerial volcano between Sumatra and Myanmar**.
- It provides **valuable scientific insights into plate tectonics and the evolution of oceanic crust**.
- Barren Island acts as a living laboratory for scientists studying volcanic activity and its impact on the environment.
- Its **strategic location in the Andaman Sea also enhances India's maritime presence in the region**.

Vishwamitri River

News: Vishwamitri River has rich biodiversity, which includes sightings of various species such as porcupines, crocodiles, and storks.

About Vishwamitri River

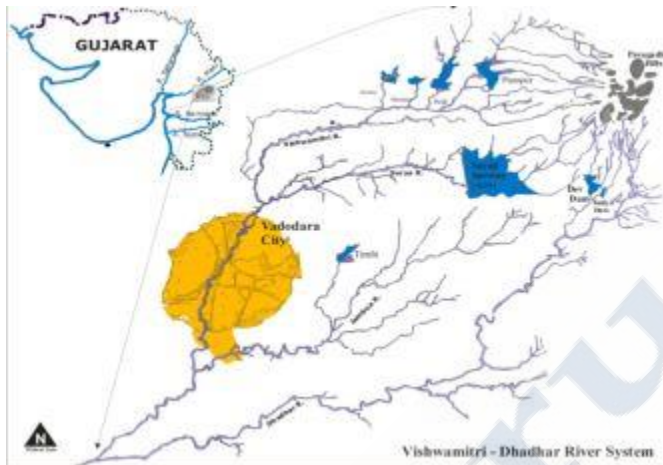


Figure 47. Source – Research Gate

- **Location:** The Vishwamitri River is a small, non-perennial river stretching approximately 200 km in length, located in Gujarat, India.
- **Origin:** The river originates from the western and southern slopes of the Pavagadh hills in eastern Gujarat.
- **It flows westward and passes through Vadodara before joining its two tributaries: Dhadar and Jambuva.**
- **Ending:** It drains into the Arabian Sea through the Gulf of Khambhat.
- **Features:** It is characterized by its winding, meandering course, which creates a

distinctive ecosystem along its banks.

- **Wildlife:** The river features numerous ravines, teeming with diverse wildlife.
 - Species such as porcupines, the common Indian civet, jungle cats, cobras, pythons, checkered keelbacks, and the Bengal monitor can be found in the river's ravines.
 - One of the most notable residents of the Vishwamitri River is the Indian crocodile (*Crocodylus palustris*), also known as the mugger crocodile.
 - The river has been home to this protected species, with an estimated population of 300 muggers recorded in a 2020 survey by the Gujarat Forest Department within the city limits of Vadodara.

About Mugger Crocodiles

- It is one of the 24 remaining species of crocodilians found on earth.
- **Naming:** Its common name “mugger” is derived from the word “magar,” meaning “water monster” in Hindi and Urdu.
- **Habitat:** The mugger crocodile is native to freshwater habitats, including marshes, lakes, rivers, and artificial ponds.

- **Distribution:** The **mugger crocodile** is found across a broad geographic range, extending from **southeastern Iran** to **Bangladesh** in the east, and from **Nepal** and **northern India** to **Sri Lanka** in the south.
 - In **India**, it is present in **15 states**, with the largest populations found in the **middle Ganges** (Bihar-Jharkhand) and **Chambal** (Madhya Pradesh, Gujarat, and Rajasthan) river basins.
- **Threats**
 - Habitat destruction
 - Entanglement and drowning in fishing equipment
 - Increasing incidents of conflict with humans
- **Conservation Status:**
 - **IUCN:** Vulnerable
 - **CITES:** Appendix I

K visa

News: As of October 1, 2025, China will launch the K visa program which is designed to attract young professionals in the fields of science, technology, engineering, and mathematics (STEM) from around the world.

About K Visa

Source: Jagran josh

About	The K visa is a new visa category introduced by China to attract young professionals in science and technology.
Aim	To provide a streamlined and flexible route for STEM professionals to work and thrive within the country
Eligibility	● The K visa is available to foreign nationals who hold a bachelor's degree or higher in any STEM field, regardless of whether the degree was awarded by a Chinese or foreign institution. ● It also extends to individuals engaged in teaching or research at reputable academic or research institutions.
Key Features	● Scope of Activity: Holders are permitted to engage in academic, scientific, technological, cultural, entrepreneurial, and business-related activities. ● No Employer Sponsorship: Unlike many other work visas, including the U.S. H-1B, the K visa does not require an employer to sponsor the applicant. This makes the application process more flexible, as individuals can apply independently without needing a domestic invitation or employer backing. ● Flexibility of Stay and Entry: The K visa offers multiple entries, allowing visa holders to travel in and out of China as needed. The validity period for the visa is extendable, and the length of stay in China is also flexible, which contrasts with many traditional visas that impose more restrictive timeframes. ● Unlike other existing visa types, this visa offers greater flexibility and targets early-career professionals rather than senior experts.

EU Deforestation Regulation (EUDR)

News: The Coffee Board is holding 'extensive' awareness and capacity-building programmes to increase the number of growers registering on its mobile application for EUDR compliance.

About EU Deforestation Regulation (EUDR)



Figure 48. Source: ofimagazine.com

About	The EU Deforestation Regulation (EUDR) is a regulation aimed at reducing global deforestation and forest degradation.
Objectives	● To ensure that the listed products consumed, used, and purchased by Europeans do not contribute to deforestation or forest degradation, both within the EU and globally. ● To cut carbon emissions caused by the EU's consumption and production of these commodities by at least 32 million metric tonnes annually. ● To tackle deforestation resulting from agricultural expansion for the production of commodities covered by the regulation, as well as address forest degradation.
Commodities Covered	It applies to timber and six key agricultural commodities along with products derived from them: Cattle, cocoa, coffee, oil palm, rubber, soy and Products include beef, furniture, chocolate, among others.
Whom it will impact	Agricultural Exporters and Traders, Farmer Producer Organizations (FPOs) and Cooperatives, Manufacturers and Processors, Input Suppliers and Certification Authorities and Logistics and Distribution Partners

Obligation under EU Deforestation Regulation (EUDR)

- Companies **must ensure the following due diligence procedures** are implemented by the specified compliance timeline:
 - **Information Gathering:** Companies are **required to provide detailed information about raw materials.**
 - **Risk Assessment:** The complexity of the **supply chain and processing** also factors into the assessment.

- **Risk Mitigation Measures:** Companies must establish effective strategies, controls, and procedures to address non-compliance risks.
 - Additionally, their compliance policies should be reviewed and updated annually.
- Companies **not classified as SMEs must publicly disclose their due diligence**, including risk assessments and measures taken.

Environmental Accounting on Forest 2025

News: Recently, MoSPI released the **8th issue of “Environmental Accounting on Forest – 2025”** during the 29th Conference of Central and State Statistical Organizations (CoCSSO) in Chandigarh.

About Environmental Accounting on Forest 2025



Figure 49. Source – MoSPI

- The **Ministry of Statistics and Programme Implementation (MoSPI)** adopted the **UN System of Environmental Economic Accounts (SEEA) Framework in 2018** for compiling environmental economic accounts.
- This is the **first publication focusing specifically on forest accounting, presenting comprehensive national and state-level forest accounts** in accordance with the SEEA framework.
- It has been **published in two volumes** –
 - **Volume I** provides methodology and national-level data on various forest ecosystem accounts.
 - **Volume II** focuses on state and Union Territory (UT) level data, presenting decadal changes in forest assets, extent, condition, and services.
- **Data Sources:** India State of Forest Report (ISFR) and other sources such as **Forestry Statistics 2021 (ICFRE)**, SEEA frameworks, NCAVES Report, National Accounts Statistics, MoSPI.
- **Significance:** It **highlights the vital role of forests in providing essential services like carbon retention and timber production**, with a focus on regeneration, conservation, and sustainable management at both national and state levels.

Key Findings from the Report

Physical Asset Account	● Between 2010-11 and 2021-22, India's forest cover grew by 17,444.61 sq. km (22.50%), covering 7.15 lakh sq. km (21.76% of India's geographical area). ● Major contributors to forest cover increase are: Kerala: 4,137 sq. km, Karnataka: 3,122 sq. km and Tamil Nadu: 2,606 sq. km
------------------------	--

Factly Compilation September 2025

Extent Account	- Between 2013-2023, India's forest extent saw a net increase of 3,356 sq. km due to reclassification and boundary adjustments. States with notable rise in Recorded Forest Area (RFA): Uttarakhand: 6.3% increase, Odisha: 1.97% increase and Jharkhand: 1.9% increase
Condition Account	Growing stock, which reflects usable wood volume in living trees, increased by 305.53 million cubic meters (7.32%) between 2013 and 2023. Leading contributors to growing stock: Madhya Pradesh: 136 million cubic meters, Chhattisgarh: 51 million cubic meters and Telangana: 28 million cubic meters - Among UTs, Andaman & Nicobar Islands contributed 77 million cubic meters.
Services Account	Provisioning Services: The value of provisioning services (timber and non-timber) rose from ₹30.72 thousand crore in 2011-12 to ₹37.93 thousand crore in 2021-22 (0.16% of GDP in 2021-22). Top contributors by state: Maharashtra: ₹23.78 thousand crore, Gujarat: ₹14.15 thousand crore and Kerala: ₹8.55 thousand crore Regulating Services (Carbon Retention): The value of carbon retention services grew by 51.82%, from ₹409.1 thousand crore in 2015-16 to ₹620.97 thousand crore in 2021-22. This accounts for 2.63% of GDP at current prices in 2021-22. Leading contributors to carbon retention value: Arunachal Pradesh: ₹296 thousand crore, Uttarakhand: ₹156.6 thousand crore and Assam: ₹129.96 thousand crore

GST Appellate Tribunal (GSTAT)

News: The launch of GSTAT and the GSTAT e-Courts Portal marks a major step in strengthening India's indirect tax dispute-resolution system.

About GST Appellate Tribunal (GSTAT)



Source – GST.gov

Created with love ❤ by ForumIAS- the knowledge network for civil services.
Visit academy.forumias.com for our mentor based courses.

About GSTAT	It is the specialized second-appeal forum for GST disputes , providing a common Centre-State platform. It ensures uniform, quicker dispute resolution .
Legal backing	It is a statutory appellate body under GST law . It is constituted under Section 109 of the Central Goods and Services Tax Act, 2017 , to hear appeals against orders under Sections 107 and 108 .
Composition	1. National Bench at New Delhi with the President, one Judicial Member, and two Technical Members (Centre and State). 2. State Benches may have two Judicial Members and a Technical Member (Centre) and a Technical Member (state).
Members' Eligibility	President: Supreme Court Judge or former Chief Justice of a High Court. Judicial Member: High Court Judge or District/Additional District Judge with 10 years' service. Technical (Centre): Group-A IRS/All India Service, 25 years' service, 3 years administering GST in the Centre. Technical (State): Above Additional Commissioner VAT/First Appellate Authority, Group-A equivalent with 25 years' service, 3 years in State GST/finance/taxation. Maximum age: President 70; Judicial Members and State Presidents 65; Technical Members 65.
Benches	• A Principal Bench in New Delhi • 31 State Benches across 45 locations in India
Power and Duties	1. It is not bound by the Code of Civil Procedure, 1908. 2. It follows natural justice and regulates its procedure. 3. It possesses civil-court-like powers for summons, documents, affidavits, commissions, and requisitions. 4. All proceedings before it are judicial in nature, and the Tribunal is deemed a civil court for specified legal purposes.

Forum for India-Pacific Island Cooperation (FIPIC)

News: External Affairs Minister hosted a FIPIC Foreign Ministers' Meeting in New York on the sidelines of the 80th UN General Assembly.

About Forum for India-Pacific Island Cooperation (FIPIC)



Source – Invisible Narad

About FIPIC	The Forum for India–Pacific Islands Cooperation (FIPIC) is a multilateral platform and a strategic initiative by India .
Established	Established in 2014 during Prime Minister's visit to Fiji .
Member	It comprises 14 Pacific Island nations — Cook Islands, Fiji, Kiribati, Marshall Islands, Micronesia, Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu.
FIPIC Summits	● 1st Summit took place in Suva, Fiji, on 19 November 2014. ● 2nd Summit followed in Jaipur, Rajasthan, in August 2015. ● 3rd Summit took place in Port Moresby, Papua New Guinea, on 22 May 2023
Aim	To strengthen India's diplomatic, economic, and cultural engagement with the Pacific Island Countries.
Significance	● Geostrategic: The 14 PICs hold significance due to location and maritime resources, shaping India's Indo-Pacific outreach. ● Multilateral influence: Their votes matter in international forums such as the United Nations. ● Developmental partnership: Cooperation spans energy, sustainable growth, health, technology, capacity building, and training. ● Strategic balancing: Engagement serves to counterbalance growing Chinese influence.
Issues	Despite importance, FIPIC remains relatively unknown beyond diplomatic and academic circles .

World Para Athletics Championships 2025

News: India is hosting the World Para Athletics Championships 2025, marking India's debut as host of this global event.

World Para Athletics Championships

- It is a **biennial global competition** in track and field for **athletes with physical disabilities**.
- It is **organised by World Para Athletics**, a subcommittee of the **International Paralympic Committee**.

About World Para Athletics Championships 2025



Source- Paralympics

World Para Athletics Championships 2025	The 12th edition is being held in New Delhi. It is one of the largest para-sport gatherings in India's history.
Dates	From September 27 to October 5, 2025
Host City & Venue	The host city is New Delhi , and the venue is the Jawaharlal Nehru Stadium .
Historic Significance	It is the first time India is hosting the World Para Athletics Championships, making it a milestone for inclusion and accessibility.
Mascot	Name: VIRAAJ It is a symbol of strength, courage, and victory , Viraj embodies the unstoppable spirit of para-athletes who rise beyond every challenge Representation: A young elephant with a blade prosthesis
Participants	More than 1,000 athletes from over 100 nations.

	Over 70 athletes are representing India.
Events & Schedule	186 medal events: • 101 men's events • 84 women's events • 1 mixed event Morning and evening sessions with finals in every session.
Facilities & Upgrades	The stadium has a new MONDO track (synthetic track surface) and athlete-friendly facilities.
History of Para Athletics	1. Originated at the Stoke Mandeville Games in the early 1950s 2. Got official recognition in the Paralympic Games at Rome in 1960- (with 25 events.) 3. Expanded steadily with wheelchair racing in 1964, events for visually impaired in 1972, and amputee athletes in 1976. 4. Marathon added in 1984.

2G Ethanol

News: Recently, India permitted the export of 2G ethanol, subject to mandatory export licenses and feedstock certificates.

About 2G Ethanol

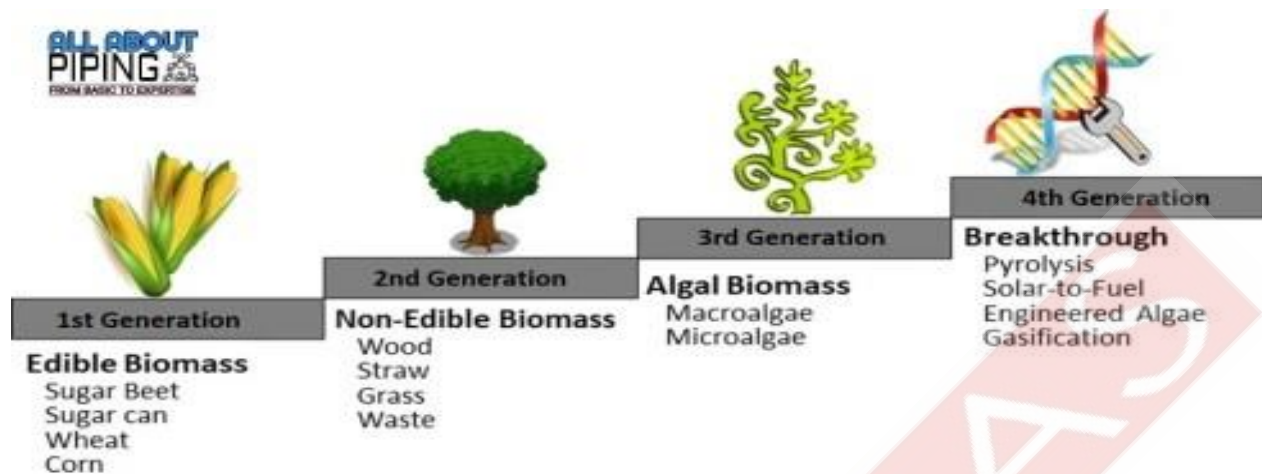


Source – Khaitan Bio

About	Second Generation (2G) ethanol is a type of biofuel produced from non-food, cellulosic, and lignocellulosic biomass such as agricultural residues (rice straw, wheat straw, corn stover, sugarcane bagasse), forestry waste, wood waste, algae, and other non-edible feedstocks.
--------------	--

Sources of Production	● Agricultural Waste: Crop residues like straw, inedible plant parts, beet pulp, and sugarcane bagasse. ● Other Waste Biomass: Municipal plant waste, used paper, wood chips, and sawdust. ● Dedicated Energy Crops: Grasses grown on non-farm land, such as miscanthus and switchgrass.
Process	The cellulosic bioethanol production process involves five steps: 1. Feedstock preparation– crush and wash the biomass feedstock 2. Pretreatment– Uses chemical and steam to render the cellulosic biomass for saccharification 3. Saccharification (Hydrolysis)- enzymes convert the pretreated biomass into fermentable sugars 4. Fermentation- yeast converts the sugars into ethanol 5. Distillation and dehydration- to concentrate and purify ethanol from the fermentation liquor The residues generated from saccharification, fermentation, and distillation can be used as a solid fuel for a boiler-turbine-generator set to produce steam and electricity.
Benefits of 2G Ethanol	● Reduced Competition with Food Supply: Since 2G ethanol uses non-edible biomass, it limits the impact on food prices and availability. ● Waste Management: It converts agricultural and industrial waste into energy, minimising landfill use and pollution. ● Carbon Footprint Reduction: Lifecycle greenhouse gas emissions are significantly lower than those from fossil fuels and 1G ethanol. ● Energy Security: It diversifies India's renewable fuel sources and reduces dependence on imported oil.
Application	● Transportation fuel: Blended with gasoline/diesel to cut emissions and can serve as future Sustainable Aviation Fuel (SAF). ● Industrial feedstock: Used for biochemicals, bioplastics, and other products, reducing fossil fuel dependence and creating new revenue streams. ● Cleaner alternative: Replaces fossil fuels in power generation or heating, offering a renewable low-carbon option. ● Employment: Can generate jobs, especially in rural areas. ● Farmer income: Provides extra revenue by selling agricultural residues for ethanol production.
Targeted scheme	Under the Pradhan Mantri JI-VAN (Jaiv Indhan-Vatavaran Anukool Fasal Awashesh Nivaran) Yojana, financial assistance is provided to 2G ethanol projects to attract investment and accelerate growth in this sector.

Other Generations of Ethanol



- **1st Generation Bioethanol:** Utilizes edible feedstocks for bioethanol production.
- **2nd Generation Bioethanol:** Produced from a wide variety of feedstocks, including lignocellulosic materials such as bagasse waste, rice waste, corn waste, spent grains, and even municipal solid waste.
- **3rd Generation Bioethanol:** Involves the use of algae biomass for fermentation, where hydrogen-rich gases serve as feedstock.
- **4th Generation Bioethanol:** Combines genomically engineered microorganisms with genetically modified feedstocks.
 - Cyanobacteria are modified to enhance oil yield, enabling more efficient bioenergy production.

Tropical Cyclone Ragasa

News: Recently, Typhoon Ragasa weakened to a tropical depression over northeastern Vietnam but will still bring heavy rain to the northern provinces of Vietnam.

About Tropical Cyclone Ragasa



- **Super Typhoon Ragasa**, locally known as “**Nando**,” is an intense **tropical cyclone** that affected the **northernmost parts of Luzon Island in the Philippines and Hualien County in Taiwan**. It also impacted **South China, Hong Kong, Macau and Vietnam**.
- It formed in the **warm waters of the western Pacific** and is **moving through the Luzon Strait toward the Babuyan Islands and southern China**.
- It has **been classified as a super typhoon because it is a Category 5 tropical cyclone** with its **sustained winds of 280 kmph**, nearing the maximum intensity that storms can reach on Earth.
- It was regarded as the **strongest storm of the year**.
- **Reason behind Ragasa being so intense:**
 - **Rising global temperatures** are making tropical cyclones more intense. The **Pacific Ocean’s surface temperature has increased** by about **1.5°C in the last century**, giving storms more energy.
 - Research shows **storms in Southeast Asia are forming closer to coastlines**, intensifying faster, and lasting longer over land.
 - **Warm waters and a track over open sea** allowed Ragasa to maintain strength without losing power over land.

About Super Cyclone

- Super typhoons are **powerful Pacific tropical cyclones** with **sustained winds over 150 mph**.
- Typhoons, including a super typhoon, **generally form in the West Pacific, close to places like China, Japan, and the Philippines**.
- They form from tropical disturbances over warm ocean waters where wind shear is low.

About tropical cyclone

About	● A tropical cyclone is a warm-core low-pressure system with no attached fronts that forms over tropical or subtropical waters and has an organized circulation. ● A tropical cyclone has both a “clean” side and a “dirty” side. ○ In the Northern Hemisphere, the right side of the storm (relative to its direction of movement) is called the “dirty” side, while the left side is known as the “clean” side. ○ The “dirty” side is typically more destructive because the storm’s forward movement combines with its counterclockwise rotation, creating stronger winds. ● The strongest winds occur where the storm’s rotation around the eye and its forward movement come together.
How it is formed	● Tropical cyclones form over warm oceans near the equator. ● Warm, moist air rises from the ocean, creating a low-pressure area. ● Air from surrounding regions rushes in to fill this space, also becoming warm and moist as it rises. ● As the air cools, it forms clouds and thunderstorms. ● Using the ocean’s heat and moisture, the storm system grows stronger and more organized.

Categories as per Saffir-Simpson Hurricane Wind Scale	- Category 1: Wind speeds of 74-95 mph, causing minimal damage. - Category 2: Wind speeds of 96-110 mph, leading to moderate damage. - Category 3: Wind speeds of 111-129 mph, classified as a major hurricane with significant damage potential. - Category 4: Wind speeds of 130-156 mph, resulting in catastrophic damage. - Category 5: Wind speeds of 157 mph or higher, causing devastating damage.
Classification	Weakest tropical cyclones are known as Tropical depression. - If a depression intensifies such that its maximum sustained winds reach 39 miles per hour [63 kmph], the tropical cyclone becomes a tropical storm. - Storm systems with wind speeds of 119 kmph and above are classified as hurricanes, typhoons, or tropical cyclones.

WTO Agreement on Fisheries Subsidies

News: Recently, **Director-General Ngozi Okonjo-Iweala** received the **instruments of acceptance of the Agreement from Brazil, Kenya, Vietnam, and Tonga**, raising the total number of acceptances beyond the two-thirds threshold of WTO members required for the Agreement to enter into force.

About WTO Agreement on Fisheries Subsidies



About	- It establishes new, binding, multilateral rules for curbing harmful subsidies, which are a key factor in the widespread depletion of the world's fish stocks. - Under the agreement, the WTO Fish Fund has been established to provide technical assistance and capacity-building support to developing and least-developed countries for implementing the Agreement.
Adopted at	WTO's 12th Ministerial Conference on 17 June 2022

Factly Compilation September 2025

Aim	To protect marine life, restore fish stocks, and safeguard the livelihoods of communities dependent on fisheries.
Goals of the agreement	The Agreement will: ○ prohibit harmful fisheries subsidies to protect peoples' livelihoods and promote food security. ○ reinforce the multilateral trading system. ○ take into account the needs of developing and least-developed country (LDC) members. ○ support the sustainable future of our shared oceans.
Subsidies that are prohibited under the Agreement	● Subsidies contributing to illegal, unreported and unregulated (IUU) fishing ● Subsidies regarding overfished stocks ● Subsidies for fishing or fishing-related activities in the unregulated high seas ● Members must take special care and exercise restraint when subsidizing vessels under other flags or activities involving fish stocks of unknown status.
Oversight and Compliance	A Committee on Fisheries Subsidies will be set up to: ○ oversee the Agreement's implementation ○ facilitate ongoing dialogue on members' fishing activities and subsidies ○ enhance transparency regarding government practices.
Significance	● Curbs Overfishing: Tackles harmful subsidies fuelling overcapacity and depletion of fish stocks. ● Fights IUU Losses: Addresses illegal, unreported and unregulated fishing causing up to US\$50 billion losses yearly. ● Protects Livelihoods: Safeguards small-scale fishers and coastal communities worldwide. ● Redirects Resources: Channels funds from harmful subsidies to sustainable fisheries management. ● Promotes Equity: Reduces unfair advantages of large fleets and supports developing and least-developed countries. ● Strengthens Sustainability: Builds a global framework for responsible, transparent fishing practices.
India's stake	India is in the process of ratifying the World Trade Organization (WTO) Agreement on Fisheries Subsidies.

National Science and Technology Survey of India

News: The Ministry of Science and Technology plans to postpone publishing its National S&T Survey analysis due to weak private-sector responses, with a likely submission extension to November 30, 2025.

About National Science and Technology Survey of India



Figure 50. Source – TH

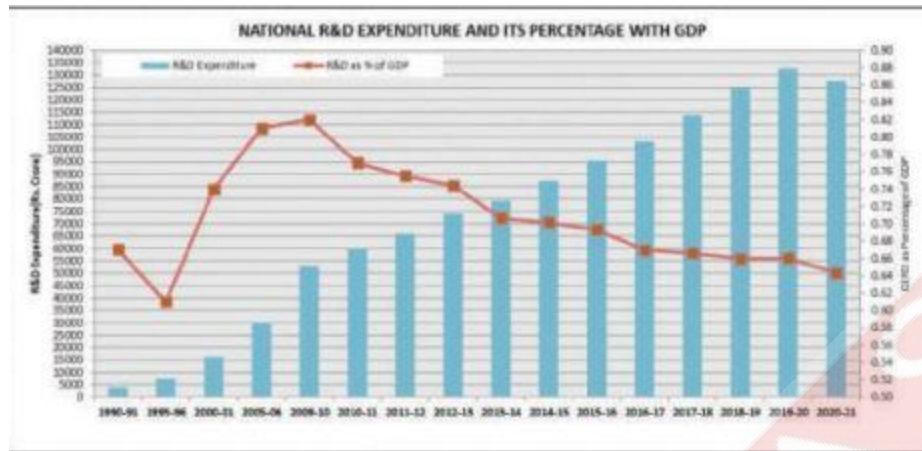
- It is a **biennial survey** that gauges the **state of scientific research** in India.
- It is prepared by using data from **both public and private R&D bodies**.
- **Conducted by:** National Science and Technology Management Information System (**NSTMIS**), Ministry of Science and Technology (**MoST**)
- **Indicators tracked:** It tracks **domestic R&D spending** and its **share of GDP**; the **size and composition of the scientific workforce** (including women);

patents and other outputs; and **India's standing** relative to other countries.

- **Last survey:** The last report was published in **March 2023**, but it only included **data up to 2021**.
- **Started in:** The survey originated in the **mid-1990s**.
- **Methodology**
 - **Coverage and Respondents:** Around 8,000 organisations are covered, including public sector, private sector, MNCs, higher education, SIROs, and NGOs.
 - **Data Collection Instrument:** The survey uses a detailed, structured questionnaire—aligned with international S&T standards—to collect information on general profiles, expenditure on S&T (R&D), R&D manpower, and R&D outputs.
 - **Platform and Authentication:** The survey is conducted on a web-based platform; each organisation is assigned a unique username and password. Identities are masked to analyse general trends.

Key findings of The National Science and Technology Survey (2023)

- The **Gross Expenditure on R&D (GERD)** in the country has **more than doubled** from Rs. 60,196.75 crore in 2010–11 to Rs. 127,380.96 crore in 2020–21.



Source – DST

- India's **GERD as percentage of GDP** remained at **0.66%** and **0.64%** during the years **2019–20** and **2020–21**, respectively.
- **GERD** is mainly **driven by the Government sector** comprising Central Government (43.7%), State Governments (6.7%), Higher Education (8.8%) and Public Sector Industry (4.4%) with **Private Sector Industry** contributing **36.4%** during 2020–21.
- India's **per capita R&D expenditure** has **increased** to current PPP\$ **42.0** in 2020–21 from current PPP\$ **29.2** in 2007–08.

National Security Act (NSA), 1980

News: Sonam Wangchuk's preventive detention under the National Security Act (NSA) has renewed attention on this stringent law that is used against perceived threats to public order and national security.

About National Security Act (NSA), 1980



Figure 51. Source – Live Law

- It is an act that empowers the government to **detain a person if the authorities are satisfied that he/she is a threat to national security** or to **prevent him/her from disrupting public order**.
- **Nature of detention:** This detention is **preventive and not punitive in nature**.
- **Aim:** its aims is to **avert anticipated threats**.
- **Purpose:** The Act seeks to address **threats to national security**, public order, foreign relations, defence, and essential supplies while building in specified

procedural safeguards for detainees.

- **Constitutional provisions:**

- **Article 22(3)** allows preventive detention and restrictions on personal liberty for reasons of state security and public order.
- **Article 22(4)** requires an Advisory Board's opinion for detention beyond three months.
- **Key features**
 - **Power of detention:** The Central and State Governments hold the power to order preventive detention under the NSA. District Magistrates and Police Commissioners may issue detention orders **only when expressly authorized by the respective government**, and they act **within the scope** of that authorization.
 - A detention order operates like a warrant; custody conditions may be prescribed and transfer across states is permitted.
 - **Grounds for detention:** Detention may be ordered to prevent acts prejudicial to the **defence of India, relations with foreign powers, the security of India, the maintenance of public order, or the maintenance of essential supplies and services.**
 - **Detention period:** Preventive detention may extend **up to 12 months**. It can be revoked earlier, and any extension requires **fresh material** showing that the threat persists.
 - **Detainee Rights:** Authorities must communicate the **grounds of detention within 5 days** (extendable to **15 days**).
 - The detainee has the **right to make a representation** to the government.
 - **Advisory Boards:** An Advisory Board of **High Court judges** must **review** the case **within three weeks** of detention and order **release** if there is **no sufficient cause**.
 - Advisory Board consists of **three members** who are qualified to be **High Court judges**.
 - Central and State Governments may constitute **one or more Advisory Boards** as needed.
 - **Limits and procedural restrictions :** The detainee **has no right to legal representation before the Advisory Board**, and the government **may withhold facts in public interest**.
 - **Temporary release:** The appropriate government may **temporarily release** a detainee for a specified period **with or without conditions**, and may **cancel such release** at any time.
 - **Protection of good-faith action:** **No suit, prosecution, or other legal proceeding** lies against authorities for **anything done or intended to be done in good faith under the Act**.

Historical context

- Preventive detention in India traces back to **colonial-era measures** that permitted detention without trial, including **Bengal Regulation III (1818)** and the **Rowlatt Acts (1919)**.
- After Independence, Parliament enacted the **Preventive Detention Act, 1950**, followed by **Maintenance of Internal Security Act (MISA), (1971)**, which was **repealed in 1978**.
- Two years later, the framework culminated in the **National Security Act (NSA)**.
 - The NSA was **promulgated on September 23, 1980**.

Drone Wall Initiative

News: The European Union launched a “drone wall” along its eastern flank after recent airspace violations by Russia.

About Drone Wall Initiative

This is what Europe's drone wall on its eastern flank could look like



Source – Table Media

Drone Initiative	- It is a cutting-edge defense strategy being adopted by the European Union (EU) and several NATO countries to counter escalating airspace violations, particularly from Russian drones. - The initiative is created to close these gaps by building a two-fold shield: detection first, then intervention. - It focuses on early warning and fast response so that cheap, low-altitude drones cannot disrupt airports, public spaces, or borders. - It forms the core of Eastern Flank Watch, which also plans a ground wall and a maritime wall. First proposed by Lithuania in 2023.
Initiative by	It is formally launched by the E.U. on bloc's eastern borders .
Objective/Aim	The objective is to detect, track, and intercept drones.

Factly Compilation September 2025

	● It aims to protect EU and NATO airspace and counter provocations, hybrid attacks, smuggling, and instrumentalized migration.
Finance	● Security Action for Europe (SAFE) instrument will provide €150 billion in low-interest loans under the EU defence programme. ● The EU has pledged €6 billion for a Drone Alliance with Ukraine. ● The European Commission will create an EU financial toolbox to support the project.
Technology used	● It will use radars; acoustic and radio-frequency sensors; infrared cameras; signal jammers; interceptors; traditional artillery. ● Effectors will be modular and scalable, including kinetic interception and nets.
Implication	● Civil Aviation & Infrastructure: It reduces airport disruptions and protects public spaces and critical facilities from low-altitude drones. ● EU-NATO Coordination: It improves compatibility with NATO systems and builds shared situational awareness across allies. ● Border & Hybrid Threats: It strengthens external border management and counters provocations, smuggling, and instrumentalized migration.

Indian Ports Act 2025

News: Recently, the Indian Ports Act 2025 was introduced to replace the colonial-era Indian Ports Act of 1908.

About the Indian Ports Act, 2025

- The Indian Ports Act, 2025, **replaces the 1908 Indian Ports Act** with a **forward-looking, integrated framework tailored to the demands of a modern economy**.
- It was passed by Parliament in August 2025 **to align India's port governance with global standards**.
- **Aim:** To unlock the full potential of India's 7,500 km coastline, streamline port administration, and align domestic practices with global maritime standards.
- The act promotes **cooperative federalism by empowering States alongside the Centre** and also **simplifies procedures, digitises operations, and enhances ease of doing business in the maritime sector**.
- The act **brings major and non-major port regulation** under a modernised law, through a **unified Legal Framework**.

Key Features of the Indian Ports Act, 2025



Port Officers & Conservator	• The Act appoints the government-designated conservator as the Port Officer, granting them supervisory authority over other officers. • The conservator retains traditional powers over vessel movement within port limits and fee collection, and also assumes new responsibilities such as disease prevention, damage assessment, and penalty adjudication.
Recognition of Statutory bodies	• State Maritime Boards: State Maritime Boards to be constituted by coastal states and authorizes them to administer non-major ports. ◦ These Boards are tasked with port planning, infrastructure development, licensing, tariff regulation, and ensuring compliance with safety, security, and environmental standards. • Maritime State Development Council: The Act confers statutory status on the Maritime State Development Council to steer data collection, dissemination, and transparency across ports. ◦ The Council will also advise the central government on national planning, legislative reforms, port efficiency, and improved connectivity.
Dispute Resolution Mechanism	• State-Level DRCs: States to establish Dispute Resolution Committees for conflicts among non-major ports, concessionaires, users, and service providers. • Appeals to High Court: Civil courts excluded; High Courts empowered for appellate jurisdiction.

	● Alternative Dispute Resolution: Arbitration and other ADR methods encouraged for speedy settlement.
Tariff Regulation	● Major Ports: Tariffs determined by the Board of the Major Port Authority or by the Board of Directors (if the port operates as a registered company) ● Non-Major Ports: Tariff authority lies with State Maritime Board or concessionaire. ● Mandatory Transparency: Electronic publication of tariffs and charges to ensure open access and fair competition.
Safety, Security & Sustainability	● Penalties for Violations: Includes damaging buoys or mishandling combustibles on board. ● Environmental Protection: Aligns with global conventions such as MARPOL and Ballast Water Management. ● Mandate for Pollution Control & Disaster Readiness: Mandates emergency response plans, waste handling audits, and compliance monitoring by the Centre. ● Protect Port Ecosystems: New obligations for pollution control, waste management, and biodiversity protection.
Digitalisation & Efficiency	● Maritime Single Window: Digital portal for unified port services and clearances. ● Advanced Vessel Traffic Systems: Modern technology to manage congestion, lower costs, and enhance safety. ● Data-Driven Governance: Unified data collection and transparency across ports.

Musi River

News: Telangana CM reviewed and directed emergency measures to tackle flooding along the Musi River after heavy rains and reservoir overflows. .

About Musi River



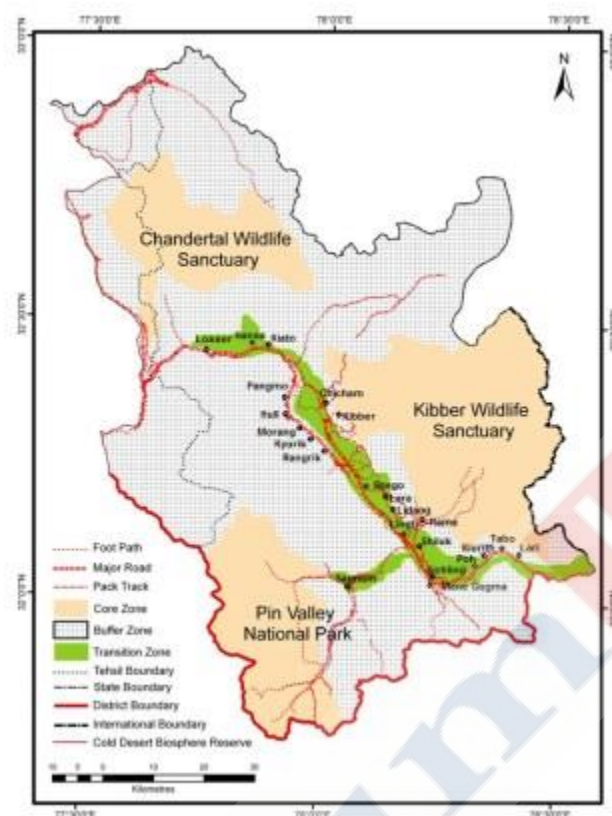
Source – Research Gate

About	● The Musi River flows through Telangana. ● It is a major tributary of the Krishna River in the Deccan Plateau. ● It is also known as the Muchukunda, Moosa or Musunuru River.
Origin	Anantagiri Hills , Vikarabad district, Telangana (about 90 km west of Hyderabad).
Tributary	● The river is formed by two tributaries, Esi and Musa, which merge before entering Hyderabad. ● The Esa and Musa converge at the 'Tipu Khan bridge sangam'.
Confluence	It ultimately merges with the Krishna River near Wazirabad in Nalgonda district.
Length	It has an aggregate length of 250 km .
Course of the river	● The Musi River flows eastward through Hyderabad, historically separating the Old City from the New City. ● The river also flows past Charminar, Purana Pul, and Afzal Gunj, making it a heritage corridor.
Dams constructed over river	● Osman Sagar (1920) and Himayat Sagar (1927) are two major dams. ● The river also has 24 diversion weirs, locally known as kathwas which are used for irrigation.
Importance	The river supports urban development, irrigation , and preserves a heritage landscape in Telangana.

Cold Desert Biosphere Reserve

News: Recently, UNESCO officially announced the designation of the Cold Desert Biosphere Reserve in India, as part of 26 new sites added to UNESCO's World Network of Biosphere Reserves (WNBR).

About Cold Desert Biosphere Reserve



Source: spitiwildlifedivision.in

Location	- It is located in the Western Himalayas, Himachal Pradesh's Lahaul-Spiti district. - It is stretched along the Western Himalayas, from Ladakh to Kinnaur, in Himachal Pradesh.
Established in	It was established in 2009 .
Key Features	- It is India's 16th biosphere reserve and India's first high-altitude cold desert biosphere reserve. - It is also one of the coldest and driest ecosystems in UNESCO's World Network of Biosphere Reserves (WNBR). - The reserve includes Pin Valley National Park and its surrounding areas. - It also covers Baralacha Pass, Bharatpur, Chandratat Lake, Sarchu, and the Kibber Wildlife Sanctuary. - It covers an area of about 7,770 km² and altitude ranges from 3,300 to 6,600 meters above sea level. - The landscape includes windswept plateaus, glacial valleys, alpine lakes, and rugged high-altitude deserts.

	About 12,000 people live in scattered villages, practicing herding, farming, and Tibetan herbal medicine, with traditions upheld by Buddhist monasteries and community councils.
Flora	- It is home to 655 herb species, 41 shrub species, and 17 tree species, including 14 endemics and 47 medicinal plants vital to the Sowa Rigpa/Amchi system. - It also includes 20 fodder species in the whole Spiti region, and more than 66 species of plants have some economic importance for local communities. - Some important plants being used locally include Hippophae rhamnoides, Salix spp, Betula utilis, Myricaria germanica, Aconitum heterophyllum (EN) etc.
Fauna	- Species such as Himalayan black bear, Himalayan blue sheep, Himalayan ibex, snow pigeon, woolly hare, etc are found here. - Some of the threatened fauna: Snow Leopard, Himalayan Griffon, Bearded Vulture/ Lammergeier, Red Fox, Himalayan Brown Bear, Tibetan Gazelle, Mountain weasel, etc

Petroleum and Natural Gas Regulatory Board (PNGRB)

News: PNGRB released a concept paper proposing an interoperable service framework so LPG bookings are fulfilled within 24 hours, even by another Oil Marketing Company.

About Petroleum and Natural Gas Regulatory Board (PNGRB)



Figure 52. Source – TH

- PNGRB is sector **regulator for petroleum, petroleum products, and natural gas**, with a consumer-protection and market-development mandate under its Act.
- **Established:** It was constituted under The **Petroleum and Natural Gas Regulatory Board Act, 2006**.
- **Objective:** Its objective is to **protect the interests of consumers** and entities engaged in specified activities relating to petroleum, petroleum products and natural gas and to promote competitive markets and for matters connected therewith or incidental thereto.
- **Function:** It **regulate** the refining, processing, storage, transportation, distribution, marketing and sale of petroleum, petroleum products and natural gas **excluding production** of crude oil and natural gas.
- **Board's composition**
 - The Board has its seat in **Delhi**.
 - It consists of **one Chairperson, three Members, and one Member (Legal)**.

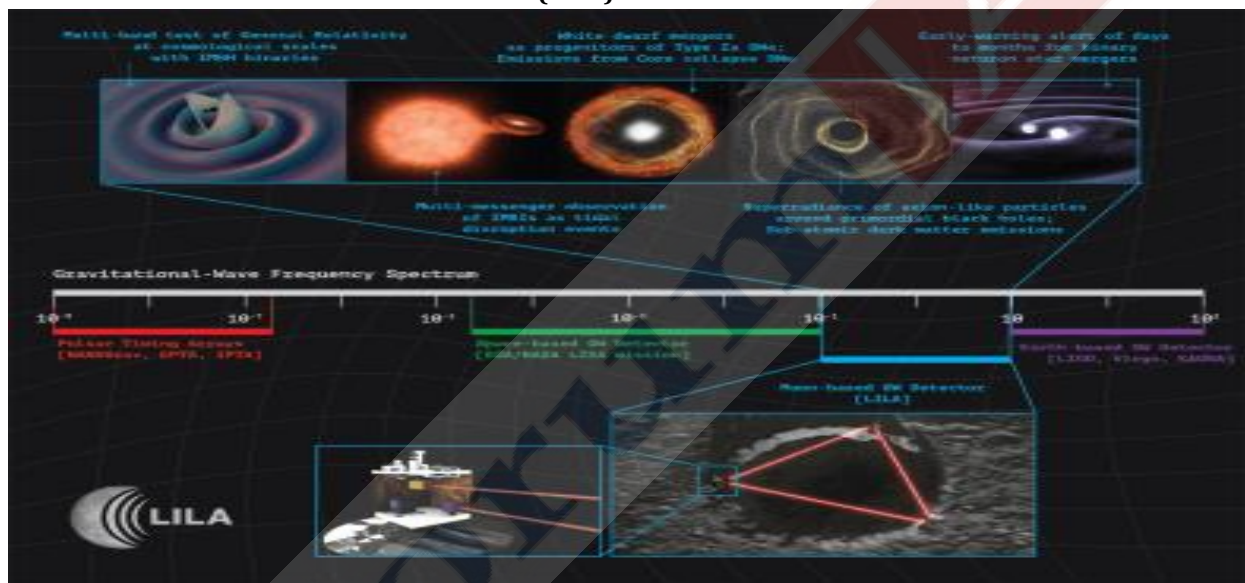
- **Board's Power**

- Its orders are enforceable with **powers akin to a civil court under the Code of Civil Procedure, 1908.**
- It may **review its own decisions** through a Review Petition.
- **Decisions** of the Board are **binding on parties** of dispute.
- It's decision can be **challenged by way of an appeal in the Appellate Tribunal.**

Laser Interferometer Lunar Antenna (LILA)

News: Scientists are developing the Laser Interferometer Lunar Antenna (LILA) on the Moon to overcome the seismic noise, atmospheric interference, and frequency constraints that limit Earth-based detectors such as LIGO.

About Laser Interferometer Lunar Antenna (LILA)



Source: vanderbilt.edu

About	● It is a proposed next-generation gravitational-wave detector on the surface of the Moon. ● It detects gravitational waves in the mid-frequency range (0.1–10 Hz). ● This range cannot be observed with earth-based detectors or with space missions planned so far. ● It is a first-of-its-kind interdisciplinary project between the astrophysics, geoscience, and lunar exploration communities.
Why moon is best location	● The Moon is the best location for this because: ○ The Moon has no atmosphere, so there is no pressure or wind noise. ○ The Moon is much quieter than Earth in terms of seismic vibrations (2–3 times quieter).

	○ The Moon does not have oceans or weather, so it avoids “Newtonian noise.”
Goals	● Detect and precisely locate merging black holes and neutron stars before they collide. ● Study the inside of the Moon and create a 3D picture of its internal structure. ● Test theories of gravity and look for new physics, such as dark matter. ● Work together with other observatories to support multi-messenger astronomy.
Two phases of development	● LILA-Pioneer: Deploys a 3–5 km interferometer to achieve mid-band GW sensitivity and test lunar normal mode detection using current robotic landers. ● LILA-Horizon: Expands to a 40 km triangular array with advanced sensors and seismic isolation, designed for astronaut-assisted assembly and maintenance.
Technology and Design	● LILA’s design includes several major technological innovations. ○ It uses precision laser interferometry on the lunar surface, taking advantage of the Moon’s natural vacuum and the lack of atmospheric or human-made disturbances. ○ It employs optical readout systems with nanometer-level accuracy, combined with specially adapted low-noise seismometers and retroreflectors for lunar conditions. ○ It features advanced seismic isolation systems, including suspended test masses, anti-spring arrays, and active noise compensation. ○ It integrates quantum-enhanced measurement techniques, such as the proposed “GravComb” laser frequency comb sensor, which improves sensitivity in the mid-frequency band. ○ The overall architecture is based on a network of lunar stations linked by long interferometer arms.

South-South and Triangular Cooperation (SSTC)

News: Recently, UN has celebrated UN Day for South-South and Triangular Cooperation on 12 September 2025. The theme was “New Opportunities and Innovation through SSTC”.

About South-South and Triangular Cooperation (SSTC)



Source: upu.int

About	- It is southern driven partnerships where two or more developing countries (South-South) collaborate with support from developed countries and/or multilateral organisations. - It has been recognized as a complement and not a substitute to North-South cooperation. - SSTC aim to strengthen knowledge sharing, technology transfer, and innovation among developing countries.
Formation	- It was formalized under the Buenos Aires Plan of Action (BAPA), 1978. - The UN recognizes September 12 as the International Day for SSTC, commemorating the anniversary of BAPA.
Significance	Solidarity and Mutual Benefit: Fosters self-reliance and mutual benefit through knowledge and resource sharing, free from external conditionalities. Capacity Building: Strengthens the ability of developing countries to address their own development challenges. Collective Self-Reliance: Encourages sharing resources and expertise to solve common problems. Non-Conditional Partnerships: Promotes equality, national sovereignty, and non-interference in development efforts. Inclusive Development: Supports vulnerable countries and contributes to achieving global development goals like the 2030 Agenda.
India's Role in SSTC	- India emphasises solidarity and inclusiveness in global cooperation through principle of Vasudhaiva Kutumbakam. Digital Innovations: India's Aadhaar and UPI serve as scalable models for digital transformation. WFP Partnership: India's collaboration with the World Food Programme has led to innovations like Grain ATMs and the Take-Home Ration programme, improving food security.

- | | |
|--|--|
| | <ul style="list-style-type: none">● India-UN Development Partnership Fund (2017): It supports SDG projects, especially in Least Developed Countries and small island countries. |
|--|--|

About Buenos Aires Plan of Action (BAPA)

- BAPA was adopted in **1978** at the **Buenos Aires Conference on Technical Cooperation among Developing Countries**.
- **Aim:** To promote technical cooperation among developing countries (TCDC) and enhance self-reliance in development efforts.
- **Core Principles of BAPA:**
 - **Solidarity and Mutual Respect** – Cooperation based on equality, not dependency.
 - **Sharing of Knowledge and Technology** – Developing nations helping each other through expertise and technical assistance.
 - **Strengthening Capacities** – Building human and institutional capacities for sustainable development.
 - **Mutual Benefit and Equity** – Ensuring that partnerships create fair outcomes for all involved.

Traditional Ritual Theatres of India

News: UNESCO recognition of Indian ritual theatres—Kutiyattam, Mudi yettu, Ramman, and Ramlila—highlights their Intangible Cultural Heritage status and the need for sustained safeguarding and transmission.

About Traditional Ritual Theatres of India



Figure 53. Source – PIB

- UNESCO has inscribed **four significant ritual theatre forms** from India on its **Representative List of the Intangible Cultural Heritage of Humanity**: Kutiyattam, Mudi yettu, Ramman, and Ramlila.

Kutiyattam

- It is one of India's **oldest surviving theatrical traditions**, dating back **over 2,000 years**, from Kerala.
- It **blends Sanskrit classicism** with Kerala's **local traditions**.
- It uses a **codified language of eye expressions (neta abhinaya)** and **hand gestures (hasta abhinaya)** to explore a character's emotions and thoughts.
- Performers undergo **10-15 years of rigorous training** to master techniques such as **breath control** and **subtle muscle movements**.

- Traditionally staged in **temple theatres (kuttampalams)**.

Mudi yettu

- Mudi yettu is a **ritual dance-drama of Kerala** depicting the **mythological battle** between **Goddess Kali** and the demon **Darika**.
- Performed **annually** in **Bhagavati kavus** after the **harvest**.

- It begins with **purification rituals** and the drawing of a **sacred kalam of Kali**.
- Performed in **Bhagavati kavus (temple precincts)**, preceded by **kalamezhuthu** (ritual drawing of the goddess's image) and **invocation ceremonies**.

Ramman

- It is an **annual religious festival** celebrated in **late April** in the **twin villages of Saloor-Dungra, Uttarakhand**, in honour of the local deity **Bhumiyal Devta**.
- It features **complex rituals, recitations of the Ramayana, songs, and masked dances**, with each **caste and group** playing **distinct roles**.
- **Instruments used:** **Dhol** (a type of drum), **Damau** (smaller percussion drum), **Manjira** (small hand cymbals), **Jhanjhar** (larger cymbals), **Bhankora** (a kind of trumpet)

Ramlila

- It is **widely performed across northern India**.
- It **dramatizes the life of Lord Rama**.
- The performances are largely based on the **Ramcharitmanas**—a **sixteenth-century** devotional text composed by **Tulsidas** in **Hindi**.

Wassenaar Arrangement

News: The Wassenaar Arrangement faces calls for reform, as its focus on physical exports leaves cloud services and digital data flows in grey areas despite adding controls on “intrusion software.”

About Wassenaar Arrangement



Source: Financial express

About	It is a key international voluntary regime for controlling exports of conventional arms and dual-use goods and technologies .
Aim	To prevent the acquisition of conventional arms, dual-use goods and technologies by terrorists.
Formed in	It was formed in 1996 as the successor to the Cold War-era Coordinating Committee for Multilateral Export Controls (COCOM) .
Secretariat	Vienna (Austria)

Participants	- It currently has 42 participating members. India joined it on 8 December 2017.
WA Control Lists	The Wassenaar Arrangement has two main lists: the Dual-Use List and the Munitions List. Dual-use items are those items that have both commercial and military or proliferation applications. For Dual-Use items, members exchange information on denied export licenses to non-members. For the Munitions List, members annually share data on exports of conventional weapons to non-members, covering eight related categories.
Functioning Body	- The Wassenaar Arrangement Plenary is the main decision-making body. - It consists of representatives from all Participating States, and they meet once a year, usually in December. - The Plenary Chair rotates annually among member states. - All decisions are made by consensus.

Other Export Control Regimes

About Nuclear Suppliers Group (NSG):

- NSG is a group of **nuclear supplier countries** that frames and implements agreed **rules for exporting nuclear equipment** with a view to **controlling the spread of nuclear weapons**.
- Setup in:** It was set up as a response to India's nuclear tests **conducted in 1974**.
- Aim:** To ensure that **nuclear trade for peaceful purposes** does not contribute to the proliferation of nuclear weapons.
- Members:** The NSG has **48 member** states and the **European Commission** acts as an **Observer**.

About Australia Group

- The Australia Group is an **informal forum** that helps exporting and transshipping countries reduce the risk of aiding **chemical and biological weapons (CBW) proliferation**.
- It **meets annually** to improve national export licensing measures.
- It **imposes no legally binding obligations**.
- All participants are parties to the **Chemical Weapons Convention (CWC)** and **Biological Weapons Convention (BWC)**.
- Members:** The Australia Group now has **43 members**, comprising all **OECD countries**, **European Commission**, all **27 EU member states** as well as **Ukraine and Argentina**.
 - India** has been a member of it since **2018**.

About Missile Technology Control Regime (MTCR)

- It is a **multilateral export control regime** to control the **spread of missiles and missile technology** that is capable of delivering weapons of mass destruction (WMDs).
- It was formed in **1987** and it has **35 member countries**.
 - India** is part of it since June, 2016.
- Objective:** To restrict the **transfer of missile technology** that can be used for the delivery of WMDs.

Factly Compilation September 2025

- It seeks to prevent the spread of missiles and their related technology that can carry payloads beyond a certain range.
- The MTCR operates on the **basis of voluntary adherence**.