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Content

National Marine Fisheries Census 2025 Launched

Why in News?

The Union Minister of State for Fisheries, Animal Husbandry and Dairying, **Shri George Kurian**, launched the **National Marine Fisheries Census (MFC) 2025** at **ICAR–Central Marine Fisheries Research Institute (CMFRI), Kochi**.

- This marks India's **first fully digitised fisheries census**, representing a major stride towards **data-driven and technology-enabled marine governance**.

Key Points

- **About:**
  - The **National Marine Fisheries Census 2025** is a **45-day nationwide exercise** designed to collect comprehensive data on India's marine fishing sector.
  - It will cover **1.2 million fisher households** across **4,000 marine fishing villages** in **nine coastal States and four Union Territories**.
  - The enumeration will be conducted from **3rd November to 18th December, 2025**.
  - The initiative is coordinated by the **Department of Fisheries (DoF)** under the **Ministry of Fisheries, Animal Husbandry and Dairying**, with **CMFRI** as the nodal agency and the **Fishery Survey of India (FSI)** as the operational partner.

- **Purpose and Objectives:**
  - To create a **comprehensive digital database** of marine fishing communities, infrastructure, and socio-economic indicators.
  - To **modernise fisheries management** and improve welfare delivery through verified digital data.
  - To link all fishers with the **National Fisheries Digital Platform (NFDP)** for streamlined access to government schemes.
  - To facilitate better implementation of **Pradhan Mantri Matsya Kisan Samridhi Sah-Yojana (PM-MKSSY)** and **Pradhan Mantri Matsya Sampada Yojana (PMMSY)**.

- **Digitised and Real-Time Data Collection:** For the first time, the Census adopts a fully digital mode, using two dedicated mobile applications developed by CMFRI to ensure accuracy, transparency, and efficiency.

Mobile Application	Core Function	Impact on the Census
VyAS Bharat	Data Capture and Geo-referencing	Used by field staff to collect socio-economic data from 1.2 million fisher households and key statistics. Links each data entry to a specific location through geo-referencing.
VyAS Sutra	Verification and Monitoring	Enables instant validation of field data and provides a centralised platform for live monitoring of the enumeration process across the country.

LVM3-M5 Launch: ISRO Shoots Off India's Heaviest Communication Satellite 'GSAT-7R'

Why in News?

India's space capabilities received a major upgrade on **November 2, 2025**, when the **Indian Space Research Organisation (ISRO)** successfully deployed **GSAT-7R**, a next-generation communication satellite for the **Indian Navy**, using its **LVM3-M5** heavy-lift rocket popularly known as **'Bahubali'** from **Sriharikota**.

Key Points

About GSAT-7R

- Designed exclusively for the **Indian Navy** to modernize its maritime communication and command infrastructure.

- Fully indigenous, equipped with **multi-band transponders** to support **voice, video, and data relay** across surface, sub-surface, and aerial naval assets.

💡 Provides uninterrupted, encrypted connectivity across the **entire Indian Ocean Region (IOR)**.

💡 Enhances **real-time situational awareness**, enabling joint coordination between **ships, submarines, aircraft, and command centres**.

💡 Acts as a **force multiplier** in India's maritime domain awareness grid, ensuring secure and resilient communication during operations.

About the Launch Vehicle – LVM3-M5 ('Bahubali')

💡 India's **heaviest operational rocket**, earlier known as **GSLV Mk-III**.

💡 **Payload Capacity:**
   ✦ Up to **4,000 kg** to **Geosynchronous Transfer Orbit (GTO)**.
   ✦ Up to **8,000 kg** to **Low Earth Orbit (LEO)**.

💡 **Configuration:** A **three-stage launch system** comprising:
   ✦ **S200** solid strap-on boosters for liftoff thrust.
   ✦ **L110** liquid core stage powered by **twin Vikas engines**.
   ✦ **C25** cryogenic upper stage — developed entirely in India.

💡 Serves as the **baseline launcher for the Gaganyaan Human Spaceflight Mission**, where its modified version is called **Human-Rated LVM3 (HRLV)**.

💡 Nickname **'Bahubali'** reflects its immense lifting strength and consistent reliability across missions.

Development Background
💡 The M5 mission is the **fifth successful flight** in the LVM3 series, continuing ISRO's flawless streak with this vehicle.
💡 Follows earlier satellites like **GSAT-7 (Rukmini)** for the Navy and **GSAT-7**A for the Air Force, extending India's defence communication capabilities.

Tri-Services Exercise 'Trishul 2025'

Why in News

The **Tri-Services Exercise 'Trishul 2025'** will commence on **November 3, 2025**, led by the **Indian Navy**, integrating **Army, Air Force, and maritime elements** across the **Sir Creek and desert sectors of Gujarat and Rajasthan**, extending into the **northern Arabian Sea**.

Key Details

💡 The large-scale exercise is **led by the Indian Navy**, coordinated by the **Western Naval Command**, with active participation from the **Army's Southern Command**, the **Navy's Western Command**, and the **IAF's South Western Command**.

💡 **Aim of the Exercise:**
   ✦ Validate joint operational procedures.
   ✦ Enhance interoperability among the three services.
   ✦ Strengthen networked command integration for multi-domain operations.

Sir Creek
💡 **Location:** Marshy estuarine area between **Kutch (Gujarat, India)** and **Sindh (Pakistan)**, where the **Rann of Kutch** meets the **Arabian Sea**.
💡 **Length:** Approximately **96 km** long tidal creek.
💡 **Dispute:** India–Pakistan boundary dispute — India considers the **mid-channel** as the border, while Pakistan claims the **eastern bank**.
💡 **Strategic Importance:**   ✦ Serves as a **sensitive coastal security zone** and **strategic maritime boundary**.   ✦ Crucial for **naval and coastal surveillance**, especially under **Western Naval Command**.   ✦ Rich in **marine resources**; potential **Exclusive Economic Zone (EEZ)** implications.   ✦ Environmentally significant — part of the **Indus Delta ecosyste**m.

International Day to End Impunity for Crimes Against Journalists (IDEI) 2025

Why in News?

On **2 November 2025**, the annual **International Day to End Impunity for Crimes Against Journalists** is being observed under the auspices of the UNESCO with a special

focus on **"AI-facilitated Gender-Based Violence against Women Journalists."** The campaign this year draws attention to how artificial intelligence enables new forms of harassment and silencing of women in media.

Key Points

- The Day was established by the **United Nations General Assembly** in **2013** in response to the **killing of French journalists Ghislaine Dupont and Claude Verlon in Mali.**

- **UNESCO's Campaign:** The organisation is rolling out its "CTRL + ALT + MUTE" awareness initiative to highlight vulnerabilities faced by women journalists and to mobilise action against impunity and digital violence.

- **2025 Theme:** The focus on **AI-enabled gender violence** realises the fact that online abuse — including deepfakes, doxxing, and orchestrated trolling has become a significant threat to women journalists' safety and freedom.

- **Global Data:** Between 2006 and 2024, more than **1,700 journalists** were killed globally; roughly **nine out of ten** such killings have not resulted in justice.

United Nations Educational, Scientific and Cultural Organization (UNESCO)

- **Founded:** 1945 (Constitution came into force in 1946)

- **Headquarters:** Paris, France

- **Mandate:** To promote international cooperation in education, the sciences, culture, and communication in order to foster peace, sustainable development, and human rights worldwide.

- **Key Functions**
  - Sets global norms and standards in its fields of expertise.
  - Develops tools and programmes for international cooperation.
  - Produces knowledge and supports evidence-based policymaking for member states.
  - Maintains networks of sites and institutions, such as World Heritage Sites, Biosphere Reserves, and Creative Cities.

India Women Win 2025 World Cup

Why in News?

India's women's cricket team created history by clinching their **first-ever ICC Women's ODI World Cup** title after **defeating South Africa** in the final.

Key Details

- **India's Journey:**
  - India had previously reached the **finals in 2005 and 2017**, losing to Australia and England, respectively.
  - India thus became the **fourth team** to win the Women's World Cup (under the captaincy of **Harmanpreet Kaur**), after **Australia, England, and New Zealand**.

- **About the Tournament:**
  - The 2025 tournament was the **13th edition** of the Women's Cricket World Cup. It is held after a gap of 4 years.
  - India and Sri Lanka hosted a total of 8 teams.
  - **Winners of last 4 editions:**
    - **2013:** Australia
    - **2017:** England
    - **2022:** Australia
    - **2025:** India

- **Key Highlights of the 2025 Final:**
  - **Coach (India):** Amol Muzumdar
  - **Captain (South Africa):** Laura Wolvaardt
  - **Player of the Match:** Shafali Verma
  - **Player of the Tournament:** Deepti Sharma

- **Awards:**
  - **ICC** declared a prize-money kitty of **USD 4.48 million** (≈ ₹ 39 crore) for the champions.
  - **The Board of Control for Cricket in India (BCCI)** announced a cash reward of ₹ **51 crore** for the Indian women's team after their win.

137 Indian Institutions in QS Rankings Asia 2026

Why in News?

Prime Minister Narendra Modi highlighted the record increase in Indian universities in the QS rankings, reiterating the government's commitment to quality education, research, and innovation.

- 💡 Quacquarelli Symonds (QS) is a London-based global higher education analyst best known for its widely recognised QS World University Rankings.

Key Points

- 💡 **About:** The QS World University Rankings: Asia 2026 reveals that **no Indian university is in the top 50**, but **India added 137 universities,** marking a 1,125% increase in representation since 2016.
  - ✦ India now has 294 universities in the QS Asia Rankings, making it the **second highest after China,** which added 261 universities, bringing its total to 395.
  - ✦ Indian institutions continue to perform strongly in **academic reputation**, **research productivity**, and **employer reputation**, but lag behind in **internationalisation** and **research visibility.**

- 💡 **Top Performers in Asia:**
  - ✦ **University of Hong Kong**: Ranked **1st**.
  - ✦ **Peking University**: Ranked **2nd**.
  - ✦ **National University of Singapore (NUS)** and **Nanyang Technological University (NTU)**: Ranked **3rd** (tied).

- 💡 **Top Indian Institutions**:
  - ✦ **IIT Delhi**: **59th** (down from **44th** in 2025).
  - ✦ **IIT Bombay**: **71st** (down from **48th** in 2025).
  - ✦ **IISc Bengaluru**: **64th** (down from **62nd** in 2025).
  - ✦ **IIT Madras**: **70th** (down from **56th** in 2025).
  - ✦ **IIT Kanpur**: **77th** (down from **67th** in 2025).
  - ✦ **Delhi University**: **95th** (down from **81st** in 2025).

- 💡 **Private Institutions' Growth**:
  - ✦ **Chandigarh University** improved to **109th** (from **120th** in 2025).
  - ✦ **BITS Pilani**, **Shoolini University**, and **O.P. Jindal Global University** also achieved their **highest-ever rankings**.

Amul Ranked 1st Among World's Top Cooperatives

Why in News?

Union Home Minister and Minister of Cooperation, Amit Shah, congratulated **Amul** and **Indian Farmers Fertiliser Cooperative Limited (IFFCO)** for securing the **1st and 2nd ranks among the top ten cooperatives globally,** according to the **ICA World Cooperative Monitor 2025 report.**

- 💡 This milestone was recognized during the **ICA CM50 Conference held in Doha, Qatar.**

Amul | 2025 International Year of Cooperatives
Cooperatives Build a Better World

United by purpose. Celebrated by the world.
Amul (GCMMF) ranked World's No.1 Cooperative.
*Based on GDP per capita ranking, World Cooperative Monitor Report 2025 by ICA & EURISCE

Key Points

- 💡 The **International Cooperative Alliance (ICA)**, in collaboration with the **European Research Institute on Cooperative and Social Enterprises (EURICSE),**

released the **2025 edition of the World Cooperative Monitor (WCM)**, marking the UN International Year of Cooperatives.

- 💡 The **13th edition of the WCM** provides a comprehensive overview of the global **cooperative sector,** showcasing cooperatives' contributions to **sustainable, inclusive**, and **resilient economies** worldwide.

- 💡 The **2025 report** features the **Top 300 cooperatives**, highlighting their **economic impact** across sectors like **agriculture, finance, health, energy**, and **education**, with a combined turnover of **USD 2.79 trillion** in 2023.

  - ✦ By **turnover relative to GDP per capita, India's Amul** and **IFFCO** top the global list, highlighting the strength of cooperatives in **emerging economies**.

  - ✦ This ranking underscores the **strength and potential** of **India's cooperative sector** in driving economic empowerment and growth.

About Amul (Gujarat Cooperative Milk Marketing Federation Ltd)

- 💡 **Amul** was established in **1946** as the **Kaira District Co-operative Milk Producers' Union Limited** in **Anand, Gujarat**, founded by **Tribhuvandas Patel** with support from **Morarji Desai** and Sardar Vallabhbhai Patel.

- 💡 In **1950**, the cooperative launched the **Amul brand**, and it has since grown to become India's largest **food product marketing organisation** with an annual turnover of **USD 7.3 billion** (2023-24).

About IFFCO (Indian Farmers Fertiliser Cooperative)

- 💡 **IFFCO** was founded in **1967** and is headquartered in **New Delhi**. It manufactures and markets **fertilisers** to Indian farmers.

- 💡 As one of the world's largest cooperatives, **IFFCO** operates with **35,000 member cooperatives**, reaching over **50 million farme**rs across India.

Birth Anniversary of Guru Nanak Dev Ji

Why in News?

President **Droupadi Murmu** extended her greetings on the occasion of **Guru Nanak Jayanti**, urging all citizens to embrace Guru Nanak Dev Ji's teachings of **truth, justice, compassion,** and human equality to build a better society.

Key Points

- 💡 **About: Guru Nanak (1469-1539)** was born in **1469** in **Talwandi village,** near Lahore in Pakistan.

  - ✦ He was the **first of the 10 Sikh gurus**.

  - ✦ He worked as a **clerk** in Sultanpur in the Lodi administration.

- 💡 **Spiritual Revelation:** Around the **age of 30,** Guru Nanak had a profound **spiritual experience** and a direct encounter with **God** near a river Kali Bein, leading him to declare, **"There is neither Hindu nor Muslim."**

- 💡 **Philosophy:** He was a proponent of the Nirguna School of the Bhakti movement and was influenced by Kabir Das. He emphasised spiritual practices like **"Nam Japna"** i.e., the repetition of God's name to experience God's presence.

- 💡 **Teachings and Travels:** He travelled extensively across **India and the Middle East,** spreading his message with his Muslim companion, **Mardana.**

  - ✦ The **hymns** composed by him were incorporated in the Adi Granth by the **fifth Sikh Guru Arjan** in 1604.

- 💡 **Community and Legacy:** He settled in Kartarpur and established the **first Sikh community** where disciples lived and worshipped together.

  - ✦ He appointed Guru Angad (Bhai Lehna) as his **successor** to lead the community.

Sikh Gurus and Their Major Contributions

Guru	Period	Key Contributions
Guru Nanak Dev	1469-1539	Founder of Sikhism; started **GURU KA LANGAR**; contemporary of **Babur**; 550th birth anniversary commemorated with Kartarpur corridor.

Guru Angad	1504-1552	Invented **Guru-Mukhi script**; popularised GURU KA LANGAR.
Guru Amar Das	1479-1574	Introduced **Anand Karaj Marriage**; abolished Sati and Purdah; contemporary of Akbar.
Guru Ram Das	1534-1581	Founded **Amritsar in 1577**; initiated construction of **Golden Temple**.
Guru Arjun Dev	1563-1606	Composed **Adi Granth in 1604**; completed Golden Temple; **executed by Jahangir**.
Guru Hargobind	1594-1644	Transformed Sikhs into a **military community**; established **Akal Takht**; waged wars against **Jahangir and Shah Jahan**.
Guru Har Rai	1630-1661	Promoted peace with **Aurangzeb**; focused on missionary work.
Guru Har Krishan	1656-1664	Youngest guru; summoned by Aurangzeb for anti-Islamic blasphemy.
Guru Teg Bahadur	1621-1675	Founded **Anandpur Sahib,** Beheaded on the orders of Mughal Emperor **Aurangzeb in 1675**.
Guru Gobind Singh	1666-1708	Founded Khalsa in **1699**; introduced **Pahul** (Baptism ceremony) ; **last guru** to pass Guruship to **Guru Granth Sahib.**

Maldives Enforces World's First Generational Smoking Ban

Why in News?

The **Maldives** has officially become the **first country in the world** to enforce a **generational ban on smoking**, prohibiting anyone **born on or after 1st January 2007** from ever purchasing, possessing, or using tobacco products.

Key Points

- 💡 **The generational Ban:**
  - ✦ Applies to **all tobacco forms**, including cigarettes, cigars, and smokeless tobacco.
  - ✦ **Retailers must verify age** before sale to prevent violations.
  - ✦ Aims to **phase out tobacco use within one generation**.
  - ✦ The Maldives already has a **complete ban on vaping and e-cigarettes**, regardless of age.
- 💡 **New Zealand** was the first to enact such law (born after 1st January, 2009), but they **repealed it** in 2023 before it took effect.
- 💡 **Health Perspective:**
  - ✦ Tobacco kills nearly **7 million people annually** (WHO).
  - ✦ The move aligns with the **WHO Framework Convention on Tobacco Control (FCTC)** to curb youth initiation and protect future generations.

WHO Framework Convention on Tobacco Control (FCTC)

- 💡 It is the **world's first global public health treaty.** Over **180 parties** (including **India**) have ratified the convention. It was adopted in 2003 and enforced in 2005.
- 💡 **Objective:** To protect present and future generations from the devastating health, social, environmental, and economic consequences of tobacco consumption and exposure to tobacco smoke.
- 💡 **Key Provisions:**
  - ✦ Ban on **tobacco advertising, promotion, and sponsorship.**
  - ✦ **Health warnings** covering at least 30–50% of packaging.
  - ✦ Measures to **reduce tobacco demand and supply**, including taxation and public smoking bans.
  - ✦ **Regulation of illicit trade** and **protection from industry interference** in policy-making.

First Indian Woman to Race a Ferrari Internationally

Why in News?

Diana Pundole has made history by becoming the **first Indian woman** to race a **Ferrari 296 Challenge** car on **international circuits**.

Key Points

- Diana Pundole is competing in the **Ferrari 296 Challenge**, a prestigious international one-make racing series featuring the brand's latest high-performance race car.
- Her participation across **Middle Eastern circuits** — including **Dubai Autodrome** and **Yas Marina, Abu Dhabi** — makes her the **first Indian woman to officially race a Ferrari at the global level**.
- **About the Ferrari 296 Challenge:**
  - The Ferrari 296 Challenge is the **latest model in Ferrari's Challenge racing series**, replacing the 488 Challenge Evo.
  - The series runs under Ferrari's global **one-make championship format**, featuring professional and gentleman racers from around the world.

Indian Navy to Commission 'Ikshak'

Why in News?

The Indian Navy will commission **INS Ikshak,** the third vessel of the **Survey Vessel (Large) [SVL] class, at Naval Base Kochi.**

Key Points

- **About the Vessel:**
  - The name Ikshak means **"Guide,"** which perfectly matches the ship's job of **accurately mapping** and **navigating the seas.**
  - It is the **first SVL-class vessel** to be based at the **Southern Naval Command (Kochi).**
  - Built by **Garden Reach Shipbuilders and Engineers (GRSE) Ltd., Kolkata,** the vessel features over **80% indigenous content.**

- **Role and Functions:**
  - Designed for **coastal and deep-water hydrographic surveys** of ports, harbours, and navigational channels.
  - The vessel's survey data will aid **safe maritime navigation, port management,** and **marine resource assessment.**
  - It enhances India's capability to produce accurate **nautical charts,** supporting both **civil and military maritime operations.**

Survey Vessel (Large) [SVL] Class

- The Survey Vessel (Large) [SVL] class project was launched to **modernise India's hydrographic survey fleet** and replace **ageing Sandhayak-class vessels.**
- A total of **four ships** are part of this class — **INS Sandhayak, INS Nirdeshak, INS Ikshak,** and **INS Sanshodhak** (under construction).
- These vessels are being built by **Garden Reach Shipbuilders and Engineers (GRSE), Kolkata** under the **Aatmanirbhar Bharat** initiative**.**
- They are designed to **conduct hydrographic, oceanographic, and cartographic surveys** to produce navigational charts and support both civil and defence maritime operations.

150 Years of National Song Vande Mataram

Why in News?

Prime Minister Narendra Modi inaugurated the year-long commemoration of 150 years of the National Song "Vande Mataram" on 7th November 2025.

Key Points

- 💡 **Historical Background:** Vande Mataram was written by <u>Bankimchandra Chatterji</u> on Akshaya Navami, **7th November 1875.**
  - ✦ It first appeared in the literary journal **Bangadarshan** as part of his iconic novel **Anandamath.**
- 💡 **Adoption:** Declared India's National Song**; the first two stanzas** were adopted by the **Constituent Assembly** on 24th January 1950.
- 💡 **Language:** Originally written in **Sanskritised Bengali.**
- 💡 **Music Composition:** Set to tune by <u>Rabindra Nath Tagore</u>**, first sung at the 1896 <u>Indian National Congress session</u>.**
  - ✦ The song invokes **Bharat Mata (Mother India)** as the embodiment of strength, prosperity, and divinity, inspiring generations during India's freedom struggle.

Special Campaign 5.0

Why in News?

The **Department of Health Research (DHR)** and the **Indian Council of Medical Research (ICMR)** have successfully concluded **Special Campaign 5.0.**

Key Points

- 💡 **Special Campaign 5.0:**
  - ✦ The **Special Campaign 5.0** is a nationwide initiative of the **Government of India** to ensure **cleanliness, efficient records management, and timely resolution of pending matters,** including **PMO and MP references** and **public grievances.**
  - ✦ The DHR and ICMR, along with 27 institutes across India, actively participated in the campaign.
  - ✦ **Major Achievements:**
    - 📎 **100% target achievement** in resolving **public grievances, PG appeals, and PMO references** during the campaign period.
    - 📎 Conducted **comprehensive cleanliness drives** in all affiliated offices and field institutes.

National Cancer Awareness Day 2025

Why in News?

India observes **National Cancer Awareness Day** on **7th November 2025**, focusing on prevention, early detection, and awareness of cancer.

Key Points

- 💡 **Date and Background:**
  - ✦ The day coincides with the **birth anniversary of Marie Curie (7th November 1867)**, whose groundbreaking research on **radioactivity** revolutionized cancer diagnosis and treatment.
  - ✦ It was **first announced in 2014** by the **Union Ministry of Health and Family Welfare** to promote awareness about cancer prevention and screening.
- 💡 **Purpose and Significance:**
  - ✦ Aims to educate citizens on the **importance of lifestyle modification**, **regular health check-ups,** and **timely medical intervention.**
  - ✦ Cancer cases in India are rising, with over **14 lakh new cases reported each year**, many detected at advanced stages.
- 💡 **Theme 2025:** Though India's campaign has a domestic focus, it aligns with the **global World Cancer Day theme (2025–27): "United by Unique"**, highlighting personalized care and inclusivity in cancer treatment.

Maria Skłodowska-Curie (1867–1934)
💡 **Nationality:** Polish-born, later became a French citizen
💡 **Major Discoveries:**
✦ Discovered the radioactive elements **Radium (Ra) and Polonium (Po).**
✦ Pioneered the concept and medical use of **radioactivity** in cancer treatment (radiotherapy)
✦ **Awards and Honours:**
✦ First woman to win a Nobel Prize
✦ Only person to receive two Nobel Prizes in two different sciences — **Physics (1903)** and **Chemistry (1911)**

> 💡 **Scientific Impact:** Her research laid the foundation for **nuclear medicine** and **radiation therapy** used in cancer diagnosis and treatment today.

Google's Project Suncatcher

Why in News?

Tech giant **Google** has announced **Project Suncatcher**, an ambitious research initiative to develop **AI-powered data centres in space**.

Key Points

- 💡 **About Project Suncatcher:**
  - ✦ Project Suncatcher envisions **solar-powered satellites** hosting **AI data centres** in space to reduce Earth's energy and water consumption used for cooling terrestrial facilities.
  - ✦ These orbiting data centres will use **free-space optical links** to transfer data at speeds of **tens of terabits per second**, forming a **distributed network** similar to satellite internet constellations like *Starlink*.
  - ✦ Google plans to launch **two prototype satellites by early 2027** to test its space-based TPU (Tensor Processing Unit) hardware.
- 💡 **Rationale for Space-Based AI Centres:**
  - ✦ **AI data centres** consume enormous electricity and water for cooling — a growing environmental concern as AI adoption increases globally.
  - ✦ In **space**, **solar panels are up to 8 times more efficient** than on Earth, providing a continuous and clean energy supply.
- 💡 **How It Works:**
  - ✦ The satellites will rely on **solar energy** and **optical data transmission** to function as a cohesive high-performance computing network.
  - ✦ **TPUs (Trillium v6e)** are being tested for radiation resistance and performance in extreme conditions.

Emissions Gap Report 2025

Why in News?

The **United Nations Environment Programme (UNEP)** released its **Emissions Gap Report 2025**, titled *"Off Target"*, warning that current **climate pledges under the Paris Agreement** are insufficient to meet the 1.5°C target.

Key Points

- 💡 **Projected Warming Levels:**
  - ✦ Under the current policies, the world is projected to warm by approximately **2.8°C by 2100**.
  - ✦ If all **Nationally Determined Contributions (NDCs)** are fully implemented, the projected warming could be reduced to around **2.3–2.5°C** by the end of the century.
  - ✦ Only a **marginal improvement** from last year's (2024) estimate of **2.6–2.8°C**, showing limited new ambition.
- 💡 **Influencing Factors:**
  - ✦ **Methodological adjustments** improved projections by 0.1°C.
  - ✦ **US withdrawal from the Paris Agreement** expected to offset the same 0.1°C gain.
- 💡 **Reduction Targets by 2035:**
  - ✦ To limit global warming to **2°C**, global greenhouse gas emissions must decline by **35% below 2019 levels by 2035**.
  - ✦ To achieve the more ambitious **1.5°C target**, emissions need to fall by **55% below 2019 levels** within the same period.
  - ✦ However, **UNEP warns that a temporary overshoot of the 1.5°C threshold is very likely within the next decade**, underscoring the urgency for deeper and faster emission cuts.
- 💡 **Positive Indicators:**
  - ✦ Projected temperature rise has dropped from **3–3.5°C (2015)** to around **2.5°C (2025)**, reflecting progress since the **Paris Agreement**.
  - ✦ **Solar and wind** technologies are rapidly scaling, cutting deployment costs globally.

- 💡 Established in **1972**, following the **UN Conference on the Human Environment (Stockholm).**
- 💡 **Headquarters:** Nairobi, Kenya
- 💡 Acts as the **leading global environmental authority**, coordinating international environmental efforts and assisting nations in implementing sustainable policies.
- 💡 **Flagship Reports:**
  - ✦ Emissions Gap Report
  - ✦ Adaptation Gap Report
  - ✦ Global Environment Outlook (GEO)

State of Food and Agriculture (SOFA) 2025 Report

Why in News?

The **Food and Agriculture Organization (FAO)** has released the State of Food and Agriculture (SOFA) 2025 report titled **"Addressing Land Degradation Across Landholding Scales"**.

Key Points

- 💡 **Key Findings:**
  - ✦ **Global Cropland Decline:** Around **20% of global croplands** show declining productivity due to soil erosion, nutrient depletion, and loss of organic carbon.
  - ✦ **Regional Impact:** Asia and Africa are the **most affected**, with severe yield gaps (up to 70% below potential levels) in South Asia and sub-Saharan Africa.
  - ✦ **India's Status:** India recorded **one of the highest yield gaps globally**, attributed to land misuse and declining soil fertility.
  - ✦ **Key Drivers:** Deforestation (90% of forest loss), monocropping, excessive fertilizer use, unsustainable irrigation, and poor soil management.
- 💡 **Land Degradation:**
  - ✦ **Land degradation** is defined as the **long-term decline in land's ability to provide essential**

ecosystem services, caused by natural processes and human actions like **deforestation**, overgrazing, and unsustainable irrigation.

- 💡 **Land Degradation Neutrality (LDN):**
  - ✘ It refers to a global goal aimed at ensuring that the **amount and quality of land resources remain stable or improve over time**.
  - ✘ The concept was adopted under the **United Nations Convention to Combat Desertification (UNCCD)** in **2015** as part of the **Sustainable Development Goal (SDG) 15.3**.
  - ✘ **Land Degradation Neutrality (LDN) Hierarchy:** Avoid > Reduce > Reverse land degradation- a core FAO principle to restore ecological balance.

- 💡 The **Food and Agriculture Organization (FAO)** was **established in 1945**.
- 💡 It is **headquartered in Rome, Italy**.
- 💡 It functions as a **specialized agency of the United Nations**.
- 💡 It has **194 member countries**, including the **European Union**.
- 💡 It aims to **end hunger**, **improve nutrition**, **ensure food security**, and **promote sustainable agriculture**.
- 💡 **Flagship Reports:**
  - ✦ State of Food and Agriculture (SOFA)
  - ✦ State of Food Security and Nutrition in the World (SOFI)
  - ✦ State of World Fisheries and Aquaculture (SOFIA)
  - ✦ State of the World's Forests (SOFO)
- 💡 **India and FAO**: India is a founding member; FAO supports India's National Food Security Mission, Soil Health Card Scheme, and Sustainable Land Management initiatives.

Exercise Malabar 2025

Why in News?

The **Indian Naval Ship (INS) Sahyadri** has reached **Guam, Northern Pacific**, to participate in the **multilateral naval exercise Malabar 2025**.

Key Points

- 💡 **Exercise Malabar:**

  - ✦ It is a **multilateral naval drill** involving **India, the United States, Japan, and Australia** under the **QUAD** framework.

  - ✦ Aims to **enhance joint maritime coordination**, **interoperability, and operational readiness** in the **Indo-Pacific.**

  - ✦ Participation of **INS Sahyadri** reflects India's **Aatmanirbhar Bharat** push and **naval self-reliance**.

  - ✦ **2025 Venue-Guam:** The choice of Guam underlines India's growing engagement in the Pacific and alignment with Quad's strategic goals.

    - 🖉 **Guam** is an **unincorporated U.S. territory** in the Western Pacific Ocean, located between the **Philippines and Hawaii**.

    - 🖉 It hosts key American military bases such as **Andersen Air Force Base** and **Naval Base Guam**, making it a **strategic hub** for Indo-Pacific security operations.
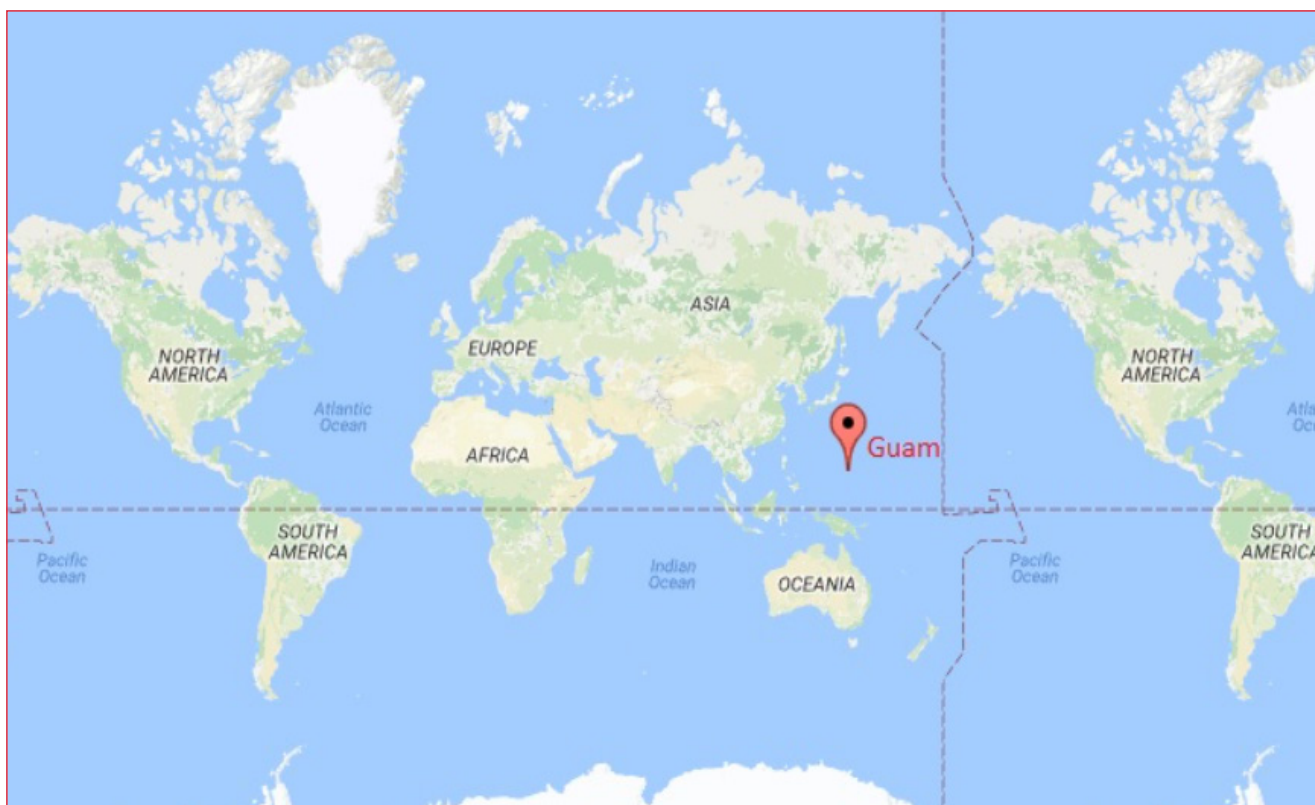
- 💡 **INS Sahyadri:**

  - ✦ It is a **Shivalik-class (Project 17) guided missile stealth frigate**, commissioned in **2012** as part of **India's first stealth frigate series**.

  - ✦ Built by **Mazagon Dock Shipbuilders Limited (MDL),** Mumbai, it was designed for **multi-role operations including anti-air, anti-surface**, and **anti-submarine** warfare.

National Legal Services Day 2025

Why in News?

9th November is observed as **National Legal Services Day**, marking the enforcement of the <u>Legal Services Authorities Act, 1987</u>, which came into effect in **1995** to ensure free and fair access to justice for all citizens, especially the underprivileged.

Key Points

- 💡 **National Legal Services Day:**
    - ✦ It is celebrated **annually** on 9 November, established by the National Legal Services Authority (NALSA) **under the Legal Services Authorities Act, 1987**.
    - ✦ It is celebrated to **promote awareness of citizens' legal rights**, ensure access to justice for all, and uphold the principle of justice for the weaker sections of society.
- 💡 **Legal Services Framework:**
    - ✦ Established under the **Legal Services Authorities Act, 1987**, the structure includes:
        - ✎ <u>NALSA</u> (National Legal Services Authority) – headed by the <u>Chief Justice of India</u>.
        - ✎ <u>SLSAs</u> (State Legal Services Authorities) – headed by **Chief Justices of High Courts**.
        - ✎ **DLSAs** (District Legal Services Authorities) – headed by **District Judges**.
    - ✦ Provides free legal representation, counselling, and aid to the **economically and socially weaker sections**.
    - ✦ Funding is shared through the **National, State, and District Legal Aid Funds**.
- 💡 To strengthen dispute resolution and access mechanisms, several complementary institutions and schemes such as <u>Lok Adalats</u>, <u>Legal Aid Defence Counsel System (LADCS)</u>, <u>Fast Track and Special Courts</u>, and **Grassroots Justice Initiatives** like <u>Gram Nyayalayas</u> and <u>Nari Adalats</u> operate under this framework.

Rebuilding 113-Year-Old Saryu Bridge

Why in News?

The Government of Uttarakhand has sanctioned **₹1.8 crore** for the reconstruction of a historic suspension bridge over **the <u>Saryu River</u> in Bageshwar district.

Key Points

- 💡 **About:**
    - ✦ The bridge, built in **1913,** has connected the town's markets and residential areas for more than a century and holds **deep local significance.**
    - ✦ The bridge has witnessed generations of local movement, festivals, and daily economic exchanges, making it not just an infrastructure asset but a living part of **Bageshwar's cultural and historical landscape.**
- 💡 **Saryu River:**
    - ✦ The Saryu River (also spelt Sarju) originates from the glaciers near **Sarmool in the Bageshwar district** of Uttarakhand, at the **southern slopes of the Nanda Kot peak in the <u>Kumaon Himalayas</u>.**
    - ✦ It **flows south** and **southwest** through Bageshwar and parts of **Pithoragarh districts** before joining the <u>Kali River (Sharda)</u> near the **Indo-Nepal border.**
        - ✎ The Kali River eventually joins the **Ghaghara River** (Karnali in Nepal), a major tributary of the Ganga River system.
    - ✦ Major tributaries that enhance its flow in this region include the <u>Gomti</u> (which joins it at Bageshwar) and the **Ramganga** (East).
    - ✦ The river holds deep **religious importance,** especially the Ghaghara's lower course, which is revered as the **Saryu River in Ayodhya,** where it is associated with **Lord Rama.**
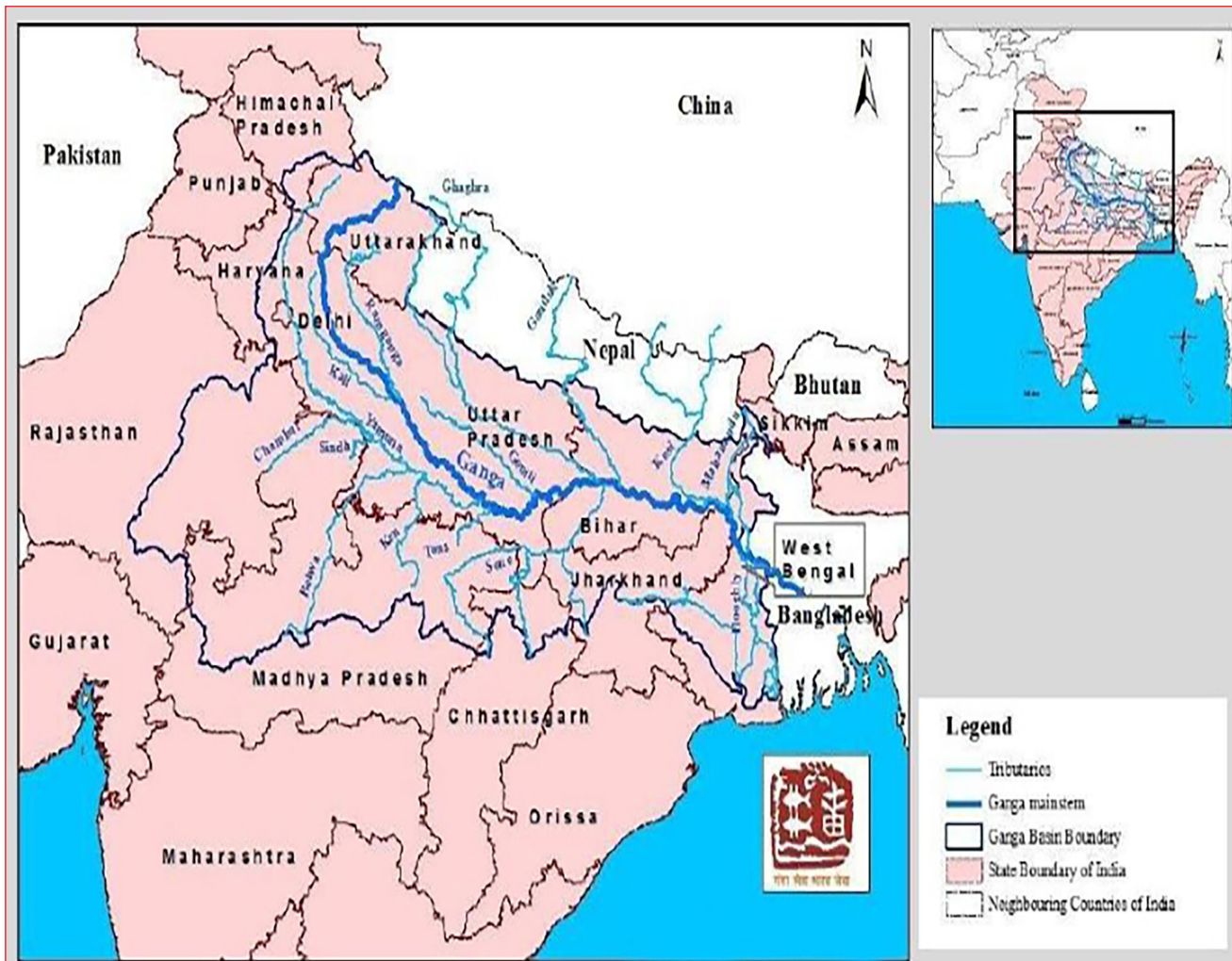
National Urban Conclave 2025

Why in News?

Union Minister for Housing and Urban Affairs Manohar Lal inaugurated the **National Urban Conclave 2025 at Yashobhoomi, New Delhi** to accelerate India's urban transformation.

💡 The two-day conclave, themed **"Sustainable Urban Development and Governance",** aims to **deliberate on urban innovation, investment, and governance.**

Key Initiatives Launched

💡 **Mission-Mode Dumpsite Remediation (DRAP):**

✦ DRAP is a **year-long national initiative** to **fast-track the clearance of legacy waste dumpsites** and reclaim valuable urban land by September 2026.

✦ **It focus on 214 high-impact landfill sites across 202 Urban Local Bodies (ULBs)** containing **8.8 crore tonnes (80%) of India's legacy waste.**

- Its Implementation follows the **5P framework-** Political leadership, Public finance, Public advocacy, Project management, and Partnerships.
- DRAP also includes **real-time monitoring** through a **dedicated national portal** for progress tracking and transparency.

💡 **Urban Invest Window (UiWIN):**
- UiWIN, anchored by **HUDCO,** is a **one-stop investment facilitation platform** for urban infrastructure.
- It aims to **attract private and multilateral funding** (e.g., World Bank, ADB) for long-term, concessional financing of projects in waste management, mobility, water, sewerage, and climate-resilient infrastructure.

💡 **Swachh Bharat Mission** – **Knowledge Management Unit (KMU):** A dedicated knowledge and capacity-building platform hosted by NIUA to strengthen institutional learning under SBM-Urban.

💡 **AMRUT Anthem "Jal Hi Janani":** Promotes water conservation awareness under Atal Mission for Rejuvenation and Urban Transformation (AMRUT).

India Joins Tropical Forests Fund as Observer

Why in News?

India has joined the **Brazil-led Tropical Forests Forever Facility (TFFF)** as an **observer**, reaffirming its commitment to multilateral climate action under the **Paris Agreement**, which marks its **10th anniversary** this year.

Key Points

💡 **About Tropical Forests Forever Facility (TFFF):**
- It was **launched by Brazil in November 2025** at **COP30** in Belém, Brazil to **reward countries** for conserving and restoring **tropical forests** through **financial incentives**.
- It seeks to **mobilise USD 125 billion** via **public and private investment**, distributing returns to nations based on measurable success in forest protection and expansion.

- The initiative aims to build a **results-based global finance model** for **forest conservation and climate resilience**, strengthening the role of tropical nations in the global climate agenda.

💡 **COP30 Climate Change Conference:**
- COP30, the 30th session of the **UNFCCC** Conference of the Parties, is being held in **Belém, Brazil, from 10th to 21st November, 2025.**
- It marks the **10th anniversary** of the Paris Agreement (2015–2025) and focuses on implementing commitments made under it.
- The agenda is to **review progress** on Paris goals, push for updated and ambitious NDCs (Nationally Determined Contributions), and ensure greater financing and technology transfer for climate adaptation and mitigation.
- **Six Pillars of Action:**
  - **Mitigation:** Reducing greenhouse gas emissions.
  - **Adaptation:** Building resilience to climate impacts.
  - **Finance:** Mobilising public and private climate funds.
  - **Technology:** Innovation and clean tech transfer.
  - **Capacity-Building:** Empowering local actors and systems.
  - **Means of Implementation:** IIntegrating all efforts into practical, on-ground change.

India's Climate Progress
💡 India achieved a **36% reduction in emission intensity** between **2005 and 2020**, surpassing its initial **NDC goals**.
💡 It has installed over **200 GW of renewable energy capacity**, ranking **third globally**, with **non-fossil fuel sources exceeding 50%** of total power capacity.
💡 India's **forest and tree cover** now spans **25.17%** of its area, creating an **additional carbon sink of 2.29 billion tonnes of CO_2 equivalent** between **2005 and 2021**.

💡 Globally, India leads key green initiatives such as the **International Solar Alliance (ISA)** with France (2015), and domestic efforts like the **National Hydrogen Mission** and **Biofuel Programme**, advancing its clean energy transition.

18ᵗʰ Urban Mobility India (UMI)

Why in News?

The 18ᵗʰ Urban Mobility India (UMI) Conference & Exhibition 2025 concluded in **Gurugram, Haryana, highlighting innovations in sustainable urban transport.**

Key Points

- 💡 **Urban Mobility India (UMI) Conference:**
  - ✦ It has been organised annually since **2008** under the National Urban Transport Policy (NUTP), **Ministry of Housing and Urban Affairs.**
  - ✦ It aims to **promote sustainable urban mobility** through knowledge sharing, capacity building, and policy dialogue.
- 💡 **About the 18ᵗʰ Edition:**
  - ✦ It was organised in **Gurugram, Haryana** with the theme of **"Urban Development and Mobility Nexus"** focusing on cleaner transport, innovative financing, and inclusivity in public transit.
  - ✦ Award Winners:

Category	Winner	Organisation
Best Public Transport System	Chennai	Metropolitan Transport Corporation (Chennai) Ltd.
Best Non-Motorized Transport System	Udaipur	Udaipur Smart City Ltd.
Most Innovative Financing Mechanism	Pimpri Chinchwad	Pimpri Chinchwad Municipal Corporation
Best Green Transport Initiative	Hyderabad	Telangana Renewable Energy Development Corporation Ltd.
Best Multimodal Integration (Metro Rail)	Chennai	Chennai Metro Rail Ltd.
Best Passenger Services (Metro Rail)	Delhi	Delhi Metro Rail Corporation Ltd.
Special Award – Traffic Management System	Aizawl	Town & Country Planning Dept., Mizoram

Bajrang Setu

Why in News?

The Uttarakhand Government is building the **Bajrang Setu** in Rishikesh to replace the **historic Lakshman Jhula**. The new bridge is designed for greater **safety, better traffic flow,** and a major boost to tourism.

Key Points

- 💡 **Bajrang Setu:**
  - ✦ It will be India's first **cable suspension bridge with glass walkways** over a river.
  - ✦ The structure is **three-laned**, featuring a **central steel deck for two-wheelers** and separate, wide **glass walkways for pedestrians** on both sides. Its entrance towers are reportedly inspired by the sacred Kedarnath Temple.

- 💡 **Lakshman Jhula:**
  - ✦ It is a famous suspension bridge over the Ganga that connected the **Tapovan area** (Tehri Garhwal) with Jonk (Pauri Garhwal).
  - ✦ It was completed in **1929** and named after Lord Lakshman. The bridge stands at the site where, according to Hindu legend, **Lakshman once crossed the Ganga** using a makeshift bridge of jute ropes.
  - ✦ The bridge was **closed to all traffic in 2019** due to severe structural deterioration and safety risks.

National Education Day 2025

Why in News?

India celebrates **National Education Day** on **11th November**, to mark the **137th birth anniversary of Maulana Abul Kalam Azad**, the first Education Minister of independent India and a key architect of the nation's modern education system.

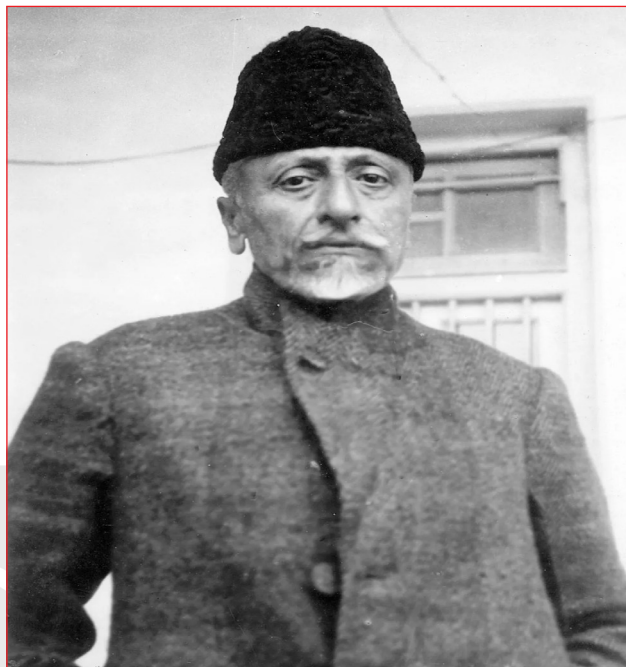### Key Points

- 💡 **National Education Day:**
  - ✦ It is observed every year on **11th November** to commemorate the birth anniversary of **Maulana Abul Kalam Azad (1888–1958)**
  - ✦ The observance was first announced in **2008** by the then **Ministry of Human Resource Development** (now the **Ministry of Education**).
- 💡 **Maulana Abul Kalam Azad:**
  - ✦ He was born on **11th November 1888, in Mecca** and later settled in **Calcutta (Kolkata)**, where he emerged as a leading scholar and nationalist.
  - ✦ He served as **India's first Minister of Education (1947–1958)** and introduced major reforms to strengthen scientific, technical, and cultural education.
  - ✦ He was instrumental in establishing the **University Grants Commission (UGC)**, **Indian Institutes of Technology (IITs)**, and **Indian Institute of Science (IISc)**, as well as cultural

bodies like the **Sahitya Akademi**, **Lalit Kala Akademi**, and **Sangeet Natak Akademi**.

- ✦ In recognition of his immense contributions, he was **posthumously awarded the Bharat Ratna** in 1992.

India's First MWh-Scale Vanadium Redox Flow Battery (VRFB)

Why in News?

Union Minister for Power and Housing & Urban Affairs inaugurated **India's first megawatt-hour (MWh) scale Vanadium Redox Flow Battery (VRFB)** in Greater Noida.

Key Points

- 💡 **About:**
  - ✦ The **3 MWh Vanadium** Redox Flow Battery **(VRFB)** is developed by **National Thermal Power Corporation (NTPC)**'s NETRA (National Energy Technology Research Alliance)
  - ✦ It aims to demonstrate **Long Duration Energy Storage (LDES)** technology for large-scale renewable energy integration and grid stability.

- 💡 **Vanadium Redox Flow Battery (VRFB):**
  - ✦ It uses **vanadium ions in different oxidation states** to store and discharge electricity efficiently.
  - ✦ The system offers **long operational life**, and **excellent scalability** compared to lithium-ion batteries.
  - ✦ **Non-flammable electrolytes** make it safer for large-scale energy storage applications.
  - ✦ It is well-suited for **grid-scale renewable energy storage**, **microgrids**, and **peak-load management**.
  - ✦ VRFBs are increasingly viewed as a **sustainable alternative** for integrating intermittent renewable sources like solar and wind into the grid.

Sukhatal Lake

Why in News?

The **Uttarakhand High Court** has sought a report from the **Nainital District Development Authority** regarding the ongoing **beautification and construction works** at Sukhatal Lake.

Key Points

- 💡 Sukhatal is a **freshwater lake** located about **1.5 km from Nainital town**, and it **feeds the Naini Lake** through its **wetland characteristics**.
- 💡 The lake remains **filled with water for only about three months in a year**, and stays **dry for the rest of the time**, which is why it is named *Sukhatal* ("dry lake").
- 💡 Earlier, it was known as **Khudariya Tal**, as its water used to **flow into the outermost part of the Nainital Lake**.
- 💡 In **1841**, when **Peter Barron discovered Nainital**, the lake **remained filled for most of the year**, and **ice skating** was done here during winters.
- 💡 After **1992**, due to **excessive construction around the lake** and **climate change**, it has **remained mostly dry**.
- 💡 The ongoing **beautification project** aims at both **tourism promotion** and **ecological conservation**.

Booker Prize 2025

Why in News?

Author **David Szalay** has won the **2025 Booker Prize** for his fictional novel **Flesh.**

Key Points

- 💡 **About the Winner:**
  - ✦ **David Szalay** is a **Hungarian-British novelist** known for his **precise, economical prose** and deep exploration of masculinity, identity, and contemporary European life.
  - ✦ With Flesh, he reinforces his reputation as a writer who **captures the inner lives of ordinary men with unusual clarity**, situating their personal struggles against broader social and economic landscapes.
- 💡 **About Booker Prize:**
  - ✦ The **Booker Prize** (formerly the Man Booker Prize) is one of the world's most prestigious literary awards. It was **established in 1969** and is run by the **Booker Prize Foundation**.
  - ✦ It honours the **best original full-length novel written in English** and published in the **UK or Ireland**. Writers of any nationality have been eligible to compete **since 2014**.
  - ✦ The award aims to promote **excellence in English-language fiction** and encourage wider readership.
  - ✦ Indian winners include **Arundhati Roy (1997)**, **Kiran Desai (2006)**, and **Aravind Adiga (2008)**.

| Difference Between Booker Prize & International Booker Prize |
|---|
| 💡 The **Booker Prize** was first awarded in **1969** and is for the best **single work of fiction originally** written in **English**. |
| 💡 The **International Booker Prize** was established later in **2005** and is for the best single work of **fiction translated into English** from any other language.
 ✦ It recognizes the achievement of both the author and the translator. |

NGT Seeks Report on Waste Near Asan River

Why in News?

The **National Green Tribunal (NGT)** has asked **Dehradun Municipal Corporation** to submit a progress report on the **clearance of legacy waste near the Asan River**, following concerns about **leachate** entering the river's floodplain.

Key Points

- 💡 **About Asan River:**
  - ✦ The Asan River, also known as the **Asan or Asan Barrage stream**, originates near **Mussoorie** and flows t**hrough the Doon Valley before meeting the Yamuna River** at the Asan Conservation Reserve near the Uttarakhand – Himachal border.
  - ✦ The river is fed by **natural springs and hill streams** and plays an important role in maintaining the **groundwater table** and biodiversity of western Doon.
  - ✦ The construction of the **Asan Barrage (1967)** created a reservoir that supports **irrigation**, **hydropower generation** (via the Kulhal and Khodri powerhouses), and bird habitats.
  - ✦ It forms the **Asan Wetland (Asan Conservation Reserve)**, Uttarakhand's **first Ramsar Site (2020),** a key habitat for migratory birds such as **ruddy shelduck, common pochard, Eurasian coot and bar-headed geese**.
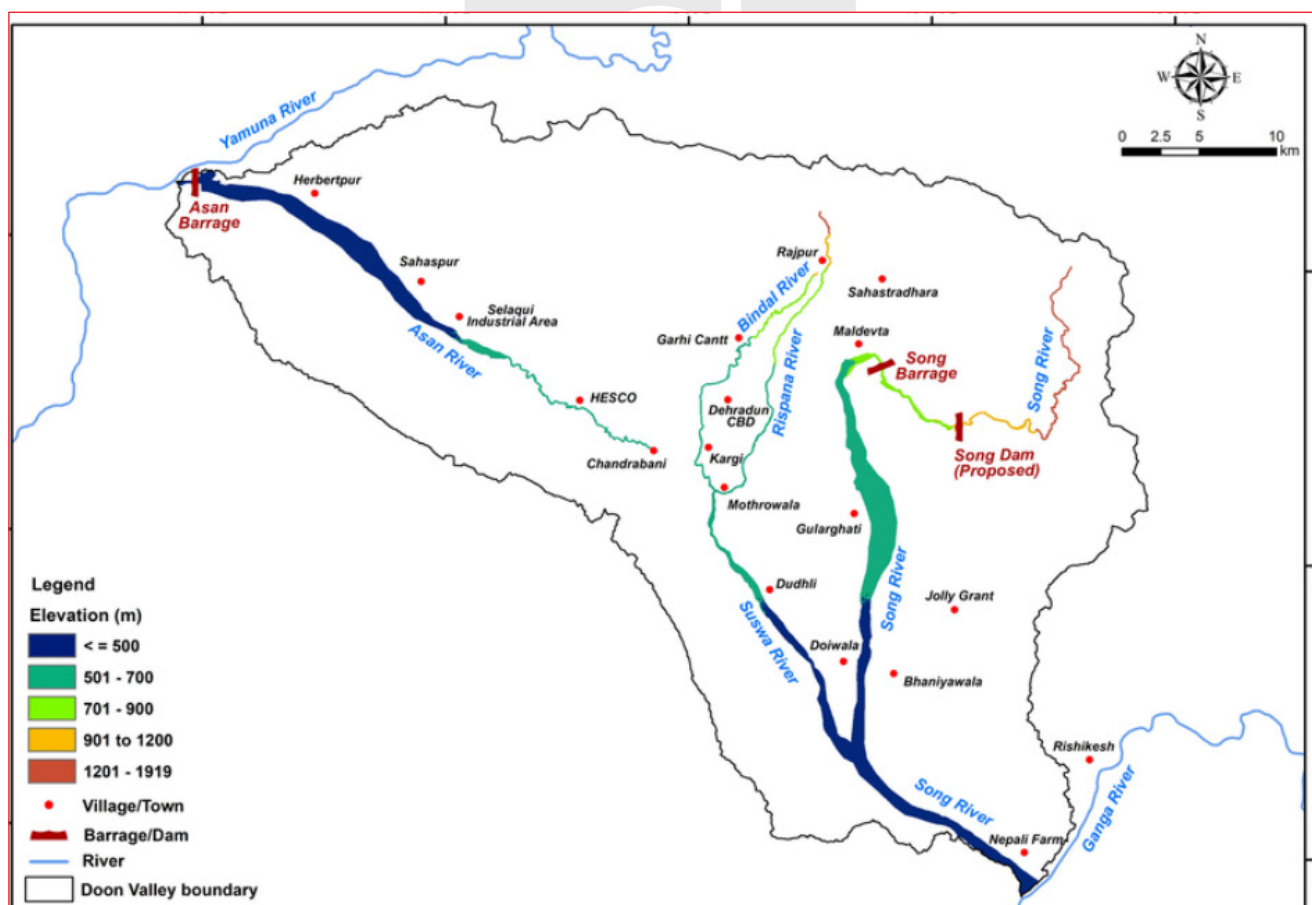
- 💡 **About Legacy waste:**
    - ✦ Legacy waste refers to **decades-old accumulated waste in dumpsites/landfills**, consisting of **mixed municipal waste** such as plastics, construction debris, organic matter, textiles, glass, metals and other inert materials.
    - ✦ These massive waste mounds cause **methane emissions, frequent fires, foul odour, groundwater contamination, and vector-borne health risks**.
    - ✦ **Scientific remediation of legacy waste involves bio-mining, bio-remediation, or bioremediation-cum-capping**, which help reclaim valuable land, reduce pollution, improve urban public health, and support the environmental objectives of **Swachh Bharat Mission 2.0**.

Kafni Glacier

Why in News?

The once-popular trekking route to **Kafni Glacier** in the Kumaon region of Uttarakhand remains abandoned and unsafe since the **devastating 2013 flash-floods**.

Key Points

- 💡 Kafni Glacier is located in the **Kumaon Himalayas, Uttarakhand**, and is a **tributary source** for the **Kafni River**, which joins the **Pindar River**.
- 💡 It is often described as a "**hidden gem**" of the Himalayas, lesser-crowded compared to **Pindari Glacier**, offering solitude, alpine meadows, and high-altitude views.
- 💡 The trekking route to Kafni starts from the **village of Khati** (the last inhabited village) via **Dwali**, and historically extended to the **glacier's Zero-Point**.
- 💡 The trail was heavily damaged by the **2013 floods**, and key infrastructure (bridges, trails) remain broken, making access nearly impossible for more than a decade.
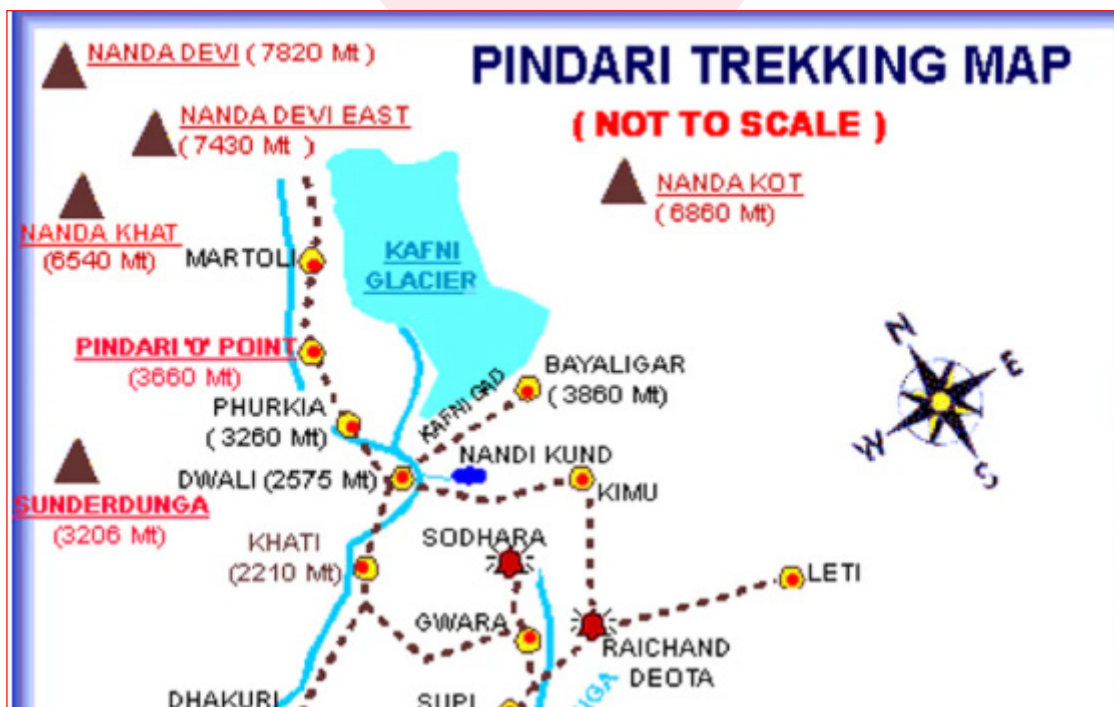
Ammonium Nitrate

Why in News?

A blast near **Delhi's Red Fort** has put **"Ammonium Nitrate"** in the spotlight, as investigators suspect the chemical may have been used in the explosion.

Key Points

- **About:**
  - Pure ammonium nitrate (NH_4NO_3) is a **white, crystalline, water-soluble, nitrogen-rich compound** made by reacting ammonia with nitric acid, and it melts at **about 170°C.**
  - The substance is classified as an oxidising agent. It is one of the **base ingredients** used in the manufacture of commercial explosives.
  - It is classified as a **dual-use** substance, meaning it has legitimate industrial uses but can also be weaponised.
- **Uses:**
  - In **agriculture**, it is widely used as a **nitrogen fertilizer** due to its high nutrient content.
  - It is used for controlled blasting in **quarries and excavation projects,** and also forms a key component of various emulsions and gels used in **mining-grade explosives.**
- **Weaponization of Ammonium Nitrate:**
  - Pure ammonium nitrate is **not explosive by itself** and is classified as **an oxiser** under **United Nations classification of dangerous goods.**
  - It becomes **volatile** when combined with **fuel oil, potassium chlorate, sulphur or other accelerants.** This mixture creates **ANFO (Ammonium Nitrate Fuel Oil),** a commonly used explosive.
    - However, ANFO cannot detonate on its own; it requires a **trigger such as a detonator,** often initiated with primary explosives like **RDX or TNT.**

Devbhoomi Parivar Yojana

Why in News?

The **Uttarakhand government** approved the **"Devbhoomi Parivar Yojana",** for all the resident families of Uttarakhand.

Key Points

- The scheme will create a **comprehensive dynamic database of all families** in Uttarakhand, including rural and urban areas.
- Each family will receive a **Family Identification Number (Family-ID)** which will be linked to **welfare schemes**, enabling citizens and government to see eligibility and benefits availed.
  - This is modeled after the **'Parivar Pehchan Patra'** scheme of **Haryana**.
- The database will help identify **duplicate beneficiaries**, streamline applications, eliminate paperwork and move towards **paper-less governance**.
- **Urban households,** which did not previously have a family register, will now be included under this scheme.

Garuda Exercise 2025

Why in News?

The **Indian Air Force (IAF)** is taking part in the **8th edition** of **Exercise Garuda-25**, a bilateral air combat drill conducted with the **French Air and Space Force (FASF)**.

Key Points

- **About Garuda Exercise:**
  - **"Garuda" is a bilateral air exercise** between the Indian and **French air forces**, conducted periodically since 2003.
  - It is among the **highest-level air force exercises** India conducts with a foreign air force and is held alternately in India and France.
  - Its key objectives include **enhancing mutual operational capabilities**, **sharing tactics**, **building log-operational familiarity** and **forging strategic ties**.

- 💡 **About 2025 Edition:**
    - ✦ The 8th edition of Garuda (Garuda-25) is being held from **16th to 27th November, 2025** at **Mont-de-Marsan Air Base in France**.
    - ✦ The **Indian Air Force (IAF)** contingent, featuring **Su-30MKI fighter aircraft** supported by **IL-78 refuellers** and **C-17 Globemaster III** air-lift assets, will operate alongside **French multirole fighters** in complex simulated missions involving **air-to-air combat**, **air defence**, and **joint strike operations**.
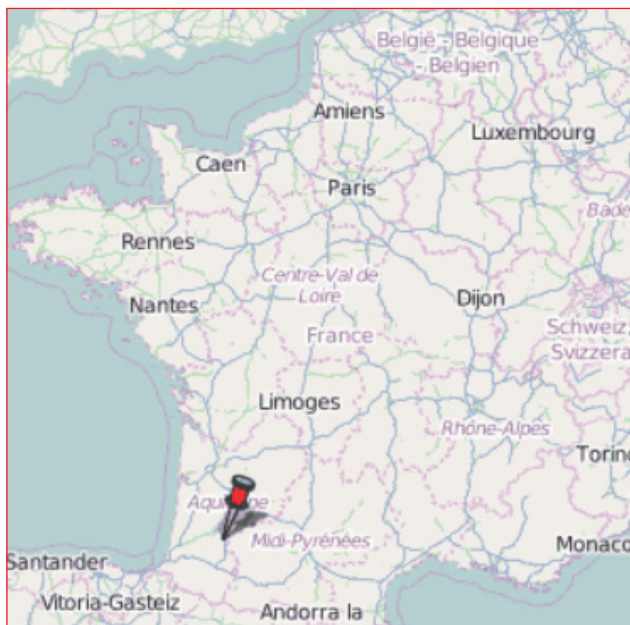
Narendra-09 Wheat Variety

Why in News?

A farmer from **Nainital district**, Uttarakhand, has received **national recognition** for developing the **climate-resilient** wheat variety "Narendra-09" and registering it under the **Protection of Plant Varieties and Farmers' Rights Act, 2001 (PPV&FRA).**

Key Points

- 💡 **About Narendra-09:**
    - ✦ **Narendra Singh Mehra** from Devla Malla village (Nainital) developed the **wheat variety "Narendra-09"** through on-farm selection of naturally occurring plants.

- ✦ The variety shows **high heat tolerance** and produces **50–80 grains per stalk**, compared to 20–25 grains in traditional varieties. It adapts well to **diverse areas** across hills and plains, requires less water, and performs well under climate-stress conditions.
- ✦ The farmer registered the variety under the **Protection of Plant Varieties and Farmers' Rights Act (PPV&FRA), 2001**, securing legal breeder and farmer rights.
- 💡 **About Protection of Plant Varieties and Farmers' Rights Act (PPV&FRA), 2001:**
    - ✦ It was enacted to **protect newly developed plant varieties, recognise the rights of farmers**, and promote the **breeding of improved crop varieties** in India.
    - ✦ The Act allows the registration of **new**, **extant**, **farmers'**, and **essentially derived** varieties, provided they meet the **DUS criteria** of Distinctness, Uniformity, and Stability.
    - ✦ It grants breeders **exclusive rights** to p**roduce, sell, market, distribute, import or export** their registered varieties. Farmers are also allowed to **save, use, sow, resow, exchange and share** seeds of protected varieties, but they cannot sell these seeds in **branded form**.
    - ✦ The Act also provides for **benefit-sharing**, **Plant Genome Saviour Awards**, and establishes the **National Gene Fund** to reward farmers and communities that have conserved or contributed valuable genetic resources.

Exercise Ajeya Warrior-25

Why in News?

India and the **United Kingdom** have begun the **8th edition of Exercise Ajeya Warrior-25**, a bilateral military training exercise between the **Indian Army** and the British Army.

Key Points

- 💡 **About Ajeya Warrior Exercise:**
    - ✦ **Ajeya Warrior** is a bilateral military exercise between the **Indian Army and the British Army**, held **biennially since 2011**.

- It focuses on enhancing **interoperability**, improving **tactical coordination**, and sharing **best practices** in counter-terrorism and peacekeeping operations.
- It is conducted **under a United Nations mandate**, specifically **aligned with Chapter VII of the UN Charter**, which deals with **peacekeeping** duties related to threats to peace, breaches of peace, and **counter-terrorism** scenarios.

- **About the 2025 Edition:**
  - The 8th edition is being held from **17th** to **30th November, 2025,** at the **Foreign Training Node, Mahajan Field Firing Ranges, Rajasthan**.
  - A total of **240 personnel** are participating, with **equal representation** from both armies. The Indian Army is represented by the **Sikh Regiment**.
  - Training includes **simulation-based scenarios**, **Brigade-level** mission planning, and **field exercises** resembling real-life counter-terror contingencies.

Pani Boao–Pani Uggao Campaign

Why in News?

Mohan Chandra Kandpal, a chemistry teacher from **Almora** district in **Uttarakhand**, has become the **first person from the state** to receive a **National Water Award**, at the **6th edition** of the awards.

- He won the prize in the **"Best Individual in the Water Sector (North Zone)"** category.

Key Points

- The **"Pani Boao–Pani Uggao"** ("Sow Water–Grow Water") mobilised **community involvement**, especially women and children, across the regions of **Bageshwar** and **Almora** districts.
- It addresses serious problems of **spring-drying**, **water shortage** and **distress migration** in Himalayan districts, which are vulnerable to **climate change** and **deforestation.**

- More than **5,000 traditional water-harvesting structures** (**khals** and **chaals**) have been built, and **27 previously dried water sources** were revived.

National Water Awards
- The National Water Awards were **first introduced in 2018** by the **Department of Water Resources, River Development & Ganga Rejuvenation** under the **Ministry of Jal Shakti.**   - The National Water Awards aim to promote exemplary work in **water conservation, efficient water management, and sustainable water resource practices** across India.   - In the 6th edition of awards, **Maharashtra** received first prize in the **Best State** category, followed by **Gujarat** in second, and **Haryana** in third.   - In the **Best Urban Local Body (ULB)** category, the **Navi Mumbai Municipal Corporation** (Maharashtra) secured first place for its exemplary work in water-management.

Spiritual Economic Zones

Why in News?

The **state government of Uttarakhand** has announced the creation of **two "Spiritual Economic Zones"** with the aim of boosting tourism by leveraging the region's spiritual, cultural and natural heritage.

Key Points

- Uttarakhand will establish **two zones—one in Garhwal** and **one in Kumaon**—each developed as integrated hubs for spiritual and wellness-based tourism.
- These zones will promote activities such as **yoga**, **meditation**, **Ayurveda**, **naturopathy**, and the showcasing of **local mountain products** and **handicrafts**.
- Each zone will host cultural programmes and events to highlight the state's **traditional practices**, **spiritual identity**, and **indigenous healing systems**.
- The government has stated that implementation will begin within the **current financial year of 2025-26**.

- Additionally, one village in each of Uttarakhand's 95 blocks will be developed as a **"spiritual village"** to create widespread tourism-linked livelihood opportunities.

BIRSA 101

Why in News?

The **Minister of Science & Technology** has launched **"BIRSA 101"**, India's first **indigenous CRISPR-based gene therapy** for **Sickle Cell Disease**.

- Named after **Birsa Munda** on his **150th birth anniversary (15th November 2025)**, the therapy strengthens India's push for a **"Sickle-Cell-Free Nation,"** with significant benefits for affected **tribal communities** in central and eastern India.

Key Points

- **About BIRSA 101:**
  - The gene therapy was developed by the **Council of Scientific & Industrial Research - Institute of Genomics and Integrative Biology(CSIR-IGIB)** and transferred to the **Serum Institute of India** through a structured **technology-transfer** agreement, ensuring rapid pathway from lab to market.
  - The **public–private model** is designed to deliver **high-quality**, **affordable** genomic therapies to underserved communities.
- **About CRISPR Gene Editing:**
  - **CRISPR (Clustered Regularly Interspaced Short Palindromic Repeats)** is a naturally occurring defence mechanism found in bacteria, used to cut viral DNA.
  - Modern gene-editing uses **CRISPR–Cas9**, where **Cas9** functions like molecular scissors to cut DNA at specific target sites.
  - It enables **precise, efficient, and low-cost genome editing**, making it a major breakthrough in biotechnology and medical research.
  - First demonstrated as a gene-editing tool in **2012**, pioneered by **Jennifer Doudna and Emmanuelle Charpentier**, who received the **2020 Nobel Prize in Chemistry**.

- **About Sickle Cell Disease (SCD):**
  - **Sickle Cell Disease** is an **autosomal recessive genetic blood disorder** caused by an **HBB gene mutation**, producing abnormal **Hemoglobin-S** that makes red blood cells sickle-shaped and rigid. This leads to **anemia, pain crises, infections, and organ complications**.
  - It is **highly prevalent in tribal communities** of central and eastern India and is a focus area under the **National Sickle Cell Anaemia Elimination Mission (2023–2047)**.
  - Conventional treatment includes **hydroxyurea, blood transfusions**, and **stem-cell transplant**.

World Fisheries Day 2025

Why in News?

India marked **World Fisheries Day 2025** on **21st November**, celebrating sustainability, blue-economy growth, and improved livelihoods for fishers.

Key Points

- **About:** **World Fisheries Day**, observed annually on **21st November**, traces its origin to the formation of the **World Fisheries Forum** in **1997**, when delegates from **18 countries** met in **New Delhi** to promote sustainable fishing and safeguard fisher communities, making India the birthplace of this global observance.
- **Theme:** The theme for 2025 is **"India's Blue Transformation: Strengthening Value Addition in Seafood Exports."**
- **Ranking:** India is the **second-largest fish-producing country** and among the **world's top shrimp producers**.
  - Total fish production more than **doubled from 96 lakh tonnes (2013–14) to 195 lakh tonnes (2024–25)**.
  - **Marine product exports** rose by **11.08%**, from **US$ 0.81 billion (October 2024)** to **US$ 0.90 billion (October 2025)**.
- **Major Initiatives:**
  - The government launched the **National Framework on Traceability in Fisheries &**

Aquaculture to ensure **safe**, **transparent**, and **globally compliant seafood supply chains**.

✦ The <u>Sustainable Harnessing of Fisheries in the EEZ Rules</u> promote **environmentally responsible deep-sea fishing**, giving **priority access** to **Fishermen Cooperatives** and **FFPOs**, enhancing **income opportunities** for small-scale fishers.

✦ **ReALCRaft** is a **digital platform** enabling **online registration**, **licensing**, <u>e-payments</u>, and **vessel data updates**, with integrated **inspections** for <u>paperless fisheries governance</u>.

✦ **NABHMITRA**, a **two-way** <u>satellite communication system</u> for small vessels (<20 m), provides **real-time tracking**, **SOS alerts**, and **weather updates**, improving **fisher safety** and **coordination with coastal authorities**.

Soapstone Mining in Bageshwar

Why in News?

The <u>Supreme Court</u> has allowed legally permitted mining operations to resume in <u>Bageshwar district</u> of **Uttarakhand**, observing that the High Court cannot impose a blanket ban on all mining activities when valid leases and environmental clearances exist.

💡 The **Uttarakhand** <u>High Court</u> in **February 2025**, had imposed **bans** across districts citing environmental harm.

Key Points

💡 **Mining in Bageshwar:**

✦ <u>Soapstone mining</u> is a major economic activity in Bageshwar, generating employment for hundreds of locals and supporting regional talc processing units.

✦ Soapstone (talc) mining is concentrated in areas such as **Kanda, Kapkot and Vijaypur**, which host some of Uttarakhand's richest talc deposits.

✦ Over the last 5 years, **around 18 lakh tonnes of soapstone** have been extracted from Bageshwar's mines, according to official records.

✦ Over-mining has led to **land degradation**, slope destabilisation and increased landslide risk. Riverbeds and village roads have suffered due to **heavy truck movement**.

💡 **Soapstone:**

✦ **Soapstone** is a soft <u>metamorphic rock</u> made of **talc** with varying amounts of <u>chlorite</u>, <u>dolomite</u>, and <u>magnesite.</u> .

✦ It is used in **ceramics**, **cosmetics**, **pharmaceuticals**, **paper**, **food processing**, **paints** and **electrical insulators**.

✦ Major producing states include **Rajasthan (largest), Uttarakhand, Karnataka, Tamil Nadu**.

✦ Uttarakhand's deposits lie mainly in **Bageshwar**, <u>Pithoragarh</u> **and** <u>Almora</u> districts.

Mangsir Bagwal

Why in News?

Hilly villages in the **Garhwal region** of **Uttarakhand** are celebrating **Mangsir Bagwal**, a **post-Diwali folk festival** rooted in agrarian rhythm and local history.

Key Points

💡 The festival of Mangsir Bawal is held in the <u>lunar month</u> of **Mangsir (Margashirsha)**, about **one month after** <u>Kartik Diwali</u>, marking a delayed celebration of light in the hills.

💡 It honours the legendary return of <u>Garhwali</u> commander **Madho Singh Bhandari**, who arrived home victorious from battle against Tibetan forces after Diwali, prompting the community to light lamps and rejoice a month later.

💡 The timing coincides with **end of the winter-**<u>harvest season</u> in the hills, when farm work eases and villagers come together for communal feasting, music, and dance.

💡 **Rituals** include folk dances like *Raso* and *Tandi*, performances to traditional drums (dhol-damaun),

- and a **unique rope** ritual on the festival's **fourth day ('Bhaand')** where **local grass** is woven into **thick rope** and coiled in the village square.
- The festival highlights <u>agrarian-pastoral livelihoods</u> of the Garhwal hills: the post-harvest lull gives space for social celebration, ritual purification, and preparation for the harsh winter months.
- It helps preserve **folk arts**, **local dialects**, **field-rites**, and <u>intangible heritage</u> important in tribal and hill contexts facing urban migration and cultural erosion.

Madho Singh Bhandari

- **Madho Singh Bhandari** (17th century) was a famed **Garhwali commander** under the <u>**Kingdom of Garhwal**</u>, celebrated for his bravery and strategic skill.
- He is most widely remembered for constructing the historic **Bhandari Khal Canal**, an engineering feat in the mountainous terrain that supported irrigation and village agriculture.
- Folklore credits him with defending Garhwal's borders against invading forces, making him a symbol of **courage, sacrifice, and military prowes**s in Uttarakhand.

Guru Tegh Bahadur Martyrdom Day

Why in News?

The President of India paid tribute to <u>**Guru Tegh Bahadur**</u> **Ji** on the occasion of his **350th Martyrdom** Day on **24th November 2025**.

- He was executed by Aurangzeb on **24th November 1675,** for defending **Kashmiri Pandits** against forced religious conversion, and the **Gurdwara Sis Ganj Sahib in Delhi's Chandni Chowk** marks the site of his execution.

Key Points

- **Early Life:** Born in the year **1621 in** <u>Amritsar</u>, Guru Tegh Bahadur was initially known as **Tyagmal** due to his **ascetic nature**. Trained in religious philosophy and martial skills, he was awarded the title **"Tegh Bahadur"** for his **bravery** in battle.

- **Contribution:** He became the **9th** <u>Sikh</u> **Guru in 1664** after **Guru Harkishan**. In **1665**, he founded <u>Anandpur Sahib</u> and contributed more than **700 hymns** to the <u>Guru Granth Sahib</u>, focusing on **equality, justice, and devotion**.

- **Legacy:** He **opposed forced religious conversions** during **Aurangzeb's reign** and encouraged **fearlessness (Nirbhau)** and **compassion (Nirvair)** among his followers.

  - ✦ He is revered for defending freedom of religion and conscience earning him the title **"Hind-di Chadar"** (Shield of India).

Ten Gurus of Sikhism

Guru Nanak Dev (1469–1539)	- <u>First Sikh Guru</u> and **founder of Sikhism** - Initiated **'Guru ka Langar'** - Contemporary of **Babur** **Kartarpur Corridor** was inaugurated on his 550th birth anniversary

Guru Angad (1504–1552)	💡 Invented the Gurmukhi script 💡 Popularized the practice of 'Guru ka Langar'
Guru Amar Das (1479–1574)	💡 Introduced the Anand Karaj marriage ceremony 💡 **Abolished sati and purdah** practices among Sikhs 💡 Contemporary of **Akbar**
Guru Ram Das (1534–1581)	💡 **Founded Amritsar in 1577** 💡 Began the extraction and construction of the **Holy Tank (Sarovar)** at the site of the **Golden Temple**.
Guru Arjan Dev (1563–1606)	💡 Compiled the **Adi Granth** in **1604** 💡 Completed the Golden Temple's construction 💡 Known as **'Shaheeden-de-Sartaj'** 💡 Executed by Jahangir for helping **Prince Khusrau**
Guru Hargobind (1594–1644)	💡 Transformed Sikhs into a **martial community** 💡 Known as the **"Soldier Saint"** 💡 Established the **Akal Takht** in Amritsar
Guru Har Rai (1630–1661)	💡 **Peace-loving** Guru 💡 Dedicated his life to missionary work and maintaining the Sikh army. Met with Dara Shikoh (Aurangzeb's brother).
Guru Harkishan (1656–1664)	💡 **Youngest Sikh Guru**, became Guru at age **5** 💡 Summoned by Aurangzeb
Guru Tegh Bahadur (1621–1675)	💡 Founded **Anandpur Sahib** 💡 **Opposed forced conversions** under Aurangzeb 💡 Martyred in **1675** for defending Kashmiri Pandits

Guru Gobind Singh (1666–1708)	💡 Founded the **Khalsa in 1699** 💡 Introduced the initiation ceremony **"Pahul"** 💡 Last human Sikh Guru and the **Five Ks** 💡 Declared **Guru Granth Sahib** as the eternal Guru

India's First Digital Twin of the Ganga River Basin

Why in News?

IIT Delhi, in collaboration with the **National Mission for Clean Ganga (NMCG)**, has begun work on developing **India's first Digital Twin of the Ganga River Basin**, a high-precision virtual replica.

Key Points

- 💡 **About the Project:**
  - ✦ IIT Delhi will create a **digital twin model**—a real-time, data-driven virtual simulation—covering the entire Ganga basin, including major tributaries like Yamuna, Kosi, Ghaghara, Gandak, and Son.
  - ✦ The model will integrate **hydrology, pollution loads, river morphology, land use, groundwater interactions, and climate impacts** to provide a continuous 3D digital representation of the basin.
  - ✦ The system will use **remote sensing, GIS, IoT sensors, satellite data, machine learning**, and river-flow monitoring to forecast environmental changes and disaster scenarios.
- ✦ **Benefits:**
  - 🖉 Improve flood forecasting, especially for Uttarakhand and the Indo-Gangetic plains, by modelling discharge, rainfall patterns, and glacial melt.
  - 🖉 Enable **real-time pollution monitoring** to trace point-source discharges, industrial effluents, sewage loads, and seasonal variations.

- Provide scientific support for **Namami Gange** interventions, including **river-cleaning**, **drain management**, **wetland conservation**, and **biodiversity assessment**.
- Help identify **illegal riverbed activities**, **sand mining hotspots**, and **encroachments**.
- **About Digital Twin:**
    - A **Digital Twin** is a **virtual, real-time digital replica** of a physical system (e.g., a river, city, machine, or ecosystem).
    - It continuously updates using **live data**, enabling simulation, prediction, and decision-making.
    - Applications include **smart cities**, **irrigation**, **transport networks**, **river management**, **climate modelling**, and **infrastructure planning**.

Hayli Gubbi Volcano

Why in News?

The **Hayli Gubbi volcano in Ethiopia** has erupted explosively, sending high-altitude ash plumes thousands of metres up, some of which have drifted into **Indian airspace**, triggering **aviation advisories**.

Key Points

- Hayli Gubbi volcano is located in **Afar, northeastern Ethiopia**, within the **Danakil Depression** - one of the **hottest and lowest places** on Earth.
- The current eruption is significant because the volcano is believed to have **erupted after nearly 12,000 years**, based on geological evidence from the Afar Rift.
- The Hayli Gubbi eruption highlights the **geological volatility** of the **East African Rift System (EARS)** where active volcanism, fissure eruptions, and **spreading ridges** are common.
    - It is one of the world's most tectonically active rift systems where the **Arabian, Nubian, and Somali plates** are diverging.

- The region is characterised by **basaltic lava**, fissure systems, and frequent **seismic activity** linked to the continental rifting process.
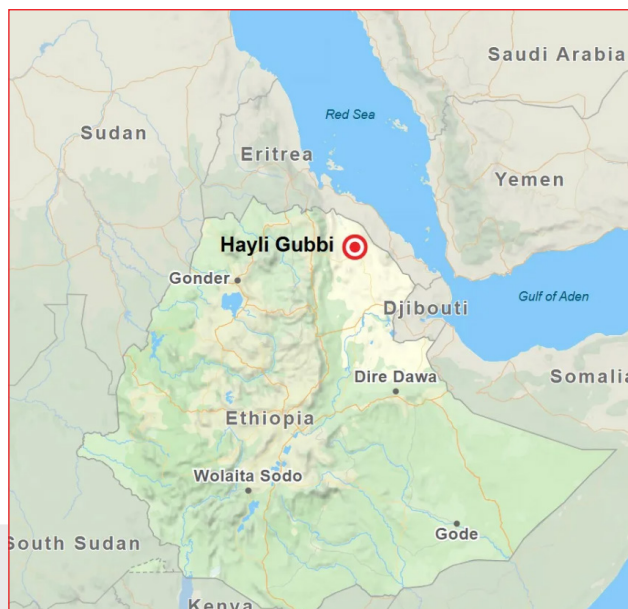
Volcanic Ash & Aviation Risks

- **Volcanic ash** is made of tiny, abrasive particles of rock and glass that can melt inside **jet engines** and cause serious damage.
- Jet engines can **stall** when ash **melts and re-solidifie**s on turbine blades.

Exercise SURYAKIRAN (2025)

Why in News?

The **19th edition of** India–Nepal Joint Military Exercise **SURYAKIRAN-XIX** began on **25th November 2025** at **Pithoragarh, Uttarakhand**.

Key Points

- **About Exercise SURYAKIRAN:**
    - **Exercise SURYAKIRAN** is a **bilateral military exercise** between the Indian Army and the Nepal Army, held **annually**, with hosting duties alternating between the two countries.
    - It aims to **enhance interoperability**, strengthen **military diplomacy**, and deepen **India–Nepal defence cooperation.**

- The exercise primarily focuses on **counter-insurgency**, **counter-terrorism**, and **jungle/ mountain warfare** terrain common to both armies.
- It is conducted under **Chapter VII of the UN Charter**, which deals with **peacekeeping** duties related to threats to **peace, breaches of peace, and counter-terrorism** scenarios.
- **About the 2025 Edition:**
  - The 2025 edition of the exercise is being hosted at **Pithoragarh**, Uttarakhand, from **25th November to 08th December, 2025**.
  - The **Indian contingent** comprises **334 personnel**, mainly from the **Assam Regiment** while the **Nepalese contingent** also includes **334 personnel**, primarily from the **Devi Datta Regiment**.
  - The 2025 edition highlights incorporation of **niche and emerging military technologies**, such as:
    - **Unmanned Aerial Systems (UAS)**
    - **Drone**-based ISR (Intelligence, Surveillance & Reconnaissance)
    - **AI-enabled** decision-support tools
    - Unmanned logistics vehicles
    - **Armoured protection platforms**

Dehradun's First 'Grey Smart Toilet'

Why in News?

Uttarakhand has inaugurated its first **Grey Smart Toilet** designed specifically for **senior citizens and the people with disabilities**, introducing an accessible, tech-enabled sanitation unit **in Dehradun**.

Key Points

- The **Grey Smart Toilet** has been installed in **Prem Nagar Area, Dehradun**, marking the state's first senior-citizen-centric sanitation facility.
- The toilet equipped with **sensor-based automated features**, wheelchair-friendly **ramps**, supportive **grab bars**, anti-skid flooring, and **low-height** fixtures to ensure safety and comfort for the elderly.
- It also includes **IoT-based** monitoring, automatic flushing, **water-level sensors**, and an app-linked dashboard for maintenance alerts, reducing manual supervision.
- The structure uses **pre-fabricated, weather-resistant material**, ensuring durability in hilly terrains while maintaining ease of installation and mobility.
- Built under a public-welfare initiative, the project aims to promote **dignified and accessible sanitation**, aligning with Uttarakhand's push for people-friendly urban and rural infrastructure.
- The model is expected to be replicated across popular pilgrim and tourist circuits in the state, such as **Char Dham** routes, where **senior citizens** form a significant visitor demographic.

Nayi Chetna 4.0 Campaign

Why in News?

The **Union Minister for Rural Development,** alongside the **Union Minister for Women and Child Development,** launched **'Nayi Chetna 4.0'**, a national campaign under the **DAY-NRLM (Deendayal Antyodaya Yojana – National Rural Livelihood Mission).**

Key Points

- The fourth edition of **Nayi Chetna – Initiative for Change** focuses on **strengthening women's safety**, **mobility**, **dignity**, and **socio-economic participation**, especially in **rural India**.
- The campaign will run **nationwide from 25th November to 23rd December 2025**, led by the extensive network of **Self-Help Groups (SHGs)** under DAY-NRLM.
- Emphasis given on elimination of **substance abuse**, which was termed a major cause of **domestic violence**, and village-level campaigns for **violence-free communities**.
- The initiative stresses **women's voices in governance**, safe public spaces, **shared domestic responsibilities**, and recognition of women's economic roles.

Prepare with DrishtiIAS

DAY-NRLM (Deendayal Antyodaya Yojana – National Rural Livelihood Mission)

💡 The DAY-NRLM was launched in **2011** and later **restructured in 2015** to strengthen its implementation framework and outreach. The mission is implemented by the Ministry of Rural Development.

💡 The scheme aims to **reduce rural poverty** by promoting **self-employment**, skill development, and **sustainable livelihoods** through Self-Help Groups (SHGs).

💡 It primarily focuses on mobilizing **rural women** into SHGs, providing them with **credit linkages**, capacity-building support, and enhanced access to markets.

💡 It includes key components such as financial inclusion, digital literacy, and the diversification of livelihood activities to improve and stabilize household incomes in rural areas.

India to Host Commonwealth Games 2030

Why in News?

Prime Minister congratulated the nation as India has officially won the bid to host the **Centenary Commonwealth Games 2030**, a historic sporting milestone marking 100 years of the Games.

Key Points

💡 **About the Commonwealth Bid:**

✦ India will host the **Centenary Commonwealth Games 2030** in Ahmedabad.

✦ This achievement represents a major **diplomatic and sporting milestone**, significantly enhancing **India's visibility and credibility** in **global sports governance.**

✦ Hosting the 2030 Games aligns with India's long-term sporting vision, particularly its efforts to upgrade **sports infrastructure**, strengthen **global event hosting capacity**, and enhance athlete support through programmes such as Khelo India and the Target Olympic Podium (TOP) Scheme.

✦ India last hosted the **Commonwealth Games in 2010**, when the event was held in **New Delhi.**

💡 **About Commonwealth Games:**

✦ The **Commonwealth Games (CWG)** is an international multi-sport event held every four years, bringing together athletes from all 56 Commonwealth nations.

✦ It was first conducted in **1930 at Hamilton, Canada** as the **British Empire Games**. India first participated in the **1934 London Games**.

✦ The event is governed by the **Commonwealth Sport (**earlier known as **Commonwealth Games Federation), headquartered in London (England)**, which ensures that the Games uphold the core values of **humanity, equality, and destiny**.

✦ The **2026 Commonwealth Games** are scheduled to take place in Glasgow, Scotland.

National Seismic Hazard Map

Why in News?

The Bureau of Indian Standards has released an updated National Seismic Hazard Map, placing the **entire Himalayan arc** into a newly created **highest-risk Zone VI**, reflecting its extreme tectonic vulnerability and significantly revising national earthquake-risk assessment.

Key Points

💡 The new map categorises the **complete Himalayan belt**—from Jammu & Kashmir to Arunachal Pradesh—into **Zone VI**, the highest hazard classification, due to persistent tectonic stress along the Himalayan Frontal Thrust.

💡 About **61% of India's landmass** is now classified as **moderate to high seismic-risk zones**, requiring updated building codes, stricter land-use norms, and mandatory structural safety compliance.

💡 The updated zonation uses **probabilistic seismic hazard modelling**, incorporating new data on active faults, rupture behaviour, and strain accumulation, replacing older deterministic maps.

💡 Under the revised map, **any town located on a boundary** between two hazard categories will be **shifted to the higher-risk zone**.

💡 The seismic risk has increased not only in hill states but also in plains adjoining the Himalayas, including parts of **Uttarakhand, Himachal Pradesh, J&K, Sikkim, Northeast, Bihar, UP, Haryana, Punjab and Delhi NCR**.

Seismic Zones in India
💡 India's earlier classification had **Zones II, III, IV, V** — with **Zone V** being the highest risk.
💡 The Himalayas are among the world's most active collision zones, created by the **Indian and Eurasian plate convergence** (~5 cm/year).
💡 Major historical earthquakes: **Kangra (1905), Bihar–Nepal (1934), Assam (1950), Kashmir (2005), Sikkim (2011), Nepal (2015)**.
💡 **IS 1893**, **IS 4326**, and **National Building Code (NBC)** govern seismic safety; the new map will necessitate extensive revisions.

Silt Levels Rise in Bhagirathi River

Why in News?

The **Bhagirathi River** in **Uttarkashi (Uttarakhand)** is witnessing dangerously high silt accumulation, with experts warning that the **ban on dredging** has increased **flood risk** and destabilised riverbanks, posing a threat to town infrastructure.

Key Points

💡 **About:**
  ✦ The **National Green Tribunal (NGT)** imposed a **ban on dredging/** excavation in the Bhagirathi in **2012**, aimed at protecting the river's ecological sensitivity as it falls under the **Bhagirathi Eco-Sensitive Zone (ESZ)**.

  ✦ Officials now report that continuous silt deposition has **raised the riverbed significantly**, especially near the **Uttarkashi district headquarters**, reducing the river's carrying capacity.

  ✦ The elevated riverbed increases the chances of **flash floods**, **bank erosion**, and **overflow during monsoon**, which may endanger homes, markets, and government buildings located close to the river.

  ✦ The State Government is preparing a proposal requesting the NGT **to permit scientific desilting**, similar to permissions granted in flood-prone rivers in other Himalayan states.

💡 **About Bhagirathi River:**
  ✦ The **Bhagirathi** is one of the **two headstreams of the Ganga**, originating from **Gaumukh Glacier** at **Gangotri** (Uttarakhand).

  ✦ It flows through **Gangotri – Harsil – Uttarkashi – Tehri**, meeting the **Alaknanda** at **Devprayag**, where they together form the **Ganga**.

  ✦ The stretch from **Gaumukh to Uttarkashi** is notified as the **Bhagirathi Eco-Sensitive Zone (2012)** to protect fragile Himalayan ecology and regulate hydropower, mining, and construction.

  ✦ Known for steep gradients, high sediment load, and vulnerability to **landslides, cloudbursts** and **glacial melt**— making riverbed elevation a significant hazard.

Uttarakhand Identifies Degraded Land for Restoration

Why in News?

The Uttarakhand Forest Department has identified **30,000 hectares of** underlined degraded forest land for ecological restoration, and the initiative is being linked with national climate commitments and the **RECAP4NDC Project**.

Key Points

- 💡 **About the Restoration Drive:**
  - The Forest Department has mapped **30,000 ha of degraded forest land** across districts such as **Pauri, Tehri, Almora, Champawat, Pithoragarh**, and parts of **Kumaon** where forest quality has significantly declined due to grazing pressure, **recurring forest fires**, **invasive species** and **soil erosion**.
  - The restoration plan will combine **assisted natural regeneration (ANR)**, enrichment plantations, **soil–moisture conservation structures**, and removal of invasives like **Lantana camara** and **Parthenium**.
  - Priority sites include **ridge zones, catchment areas, and wildlife corridors**, particularly those influencing the **Ganga** and **Yamuna river basins**.
  - The programme contributes to India's commitment under the **UNFCCC Bonn Challenge**, where India pledged to restore **26 million ha of degraded land by 2030**.
  - Uttarakhand is among states piloting **LiDAR-based forest mapping**, helping identify degraded landscape patches using 3D terrain and vegetation data.
- 💡 **RECAP4NDC Project:**
  - **RECAP4NDC – Restore, Conserve and Protect Forest & Tree Cover for NDC Implementation** is a national climate-forestry programme supporting India's forest restoration goals.
  - **It assists India in meeting its NDC target** of creating an additional **2.5–3 billion tonnes of CO_2-equivalent carbon sink** through expanded forest and tree cover.
  - **It is implemented by MoEFCC with GIZ India** (a German government-owned enterprise) under Indo-German development cooperation.
  - Its key areas of work include **landscape restoration planning, community-based forest management, agroforestry promotion, assisted natural regeneration and ecosystem-based restoration.**

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Key Points

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