Current Affairs [Prelims] Lexicon - July, 2025

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Polity & Governance

Akashvani

Akashvani is the national public radio broadcaster of India, established in 1936. It operates under the Prasar Bharati corporation and broadcasts in multiple Indian languages. It played a key role during India's independence movement by disseminating information. The broadcaster covers news, music, culture, and educational programs. It has over 400 stations and reaches millions of listeners daily. Akashvani also pioneered radio drama and plays role in rural communication. It is funded by the government but also generates revenue through advertisements and sponsored programs. It is one of the oldest radio networks in Asia.

WHY IN NEWS?

Akashvani's correspondent reported on India's electronics export surge, denoting the country's growing role in global manufacturing.

Appointments Committee of the Cabinet

The **Appointments Committee of the Cabinet (ACC)** is a key body in the Government of India responsible for appointments to top posts in the central government, including regulatory authorities, public sector undertakings, and constitutional bodies. The ACC is chaired by the Prime Minister and includes the Minister of Home Affairs. It approves appointments of senior bureaucrats, judges, and heads of important institutions. The committee's decisions ensure merit-based and transparent selection processes. The ACC's role is crucial in maintaining the administrative machinery's efficiency and integrity by placing experienced and capable individuals in leadership positions.

WHY IN NEWS?

The ACC approved Ajay Seth's appointment as chairman of IRDAI for a three-year term in July 2025.

Ashoka Chakra

The Ashoka Chakra is a 24-spoke navy blue wheel located at the center of the Indian national flag. It is derived from the **Lion Capital of Ashoka**, an ancient emblem from Emperor Ashoka's reign in the 3rd century BCE. The chakra symbolizes the **wheel of law (Dharma)** and continuous movement, reflecting progress and justice. It replaced the earlier spinning wheel (charkha) on the flag to emphasize law and governance rather than the textile industry. The Ashoka Chakra also appears on various Government of India seals and currency notes.

WHY IN NEWS?

Highlighted as the key emblem on the Indian flag officially adopted on July 22, 1947, replacing the charkha.

Atomic Energy Regulatory Board (AERB)

The Atomic Energy Regulatory Board is India's nuclear safety authority responsible for regulating nuclear and radiation safety. Established in 1983, it oversees licensing, safety reviews, and compliance monitoring of nuclear facilities. AERB conducts multi-tiered safety

assessments covering reactor design, construction, commissioning, and operational phases. It collaborates with technical support organizations and experts to ensure adherence to international safety standards. The board's approval is mandatory for the operation of nuclear reactors in India and is valid for specific periods, typically five years, subject to periodic reviews.

Why in news?

AERB granted a five-year operation license to NPCIL for KAPS-3 and KAPS-4, following extensive safety evaluations of the first indigenous 700 MWe PHWRs.

Bureau of Indian Standards (BIS)

The Bureau of Indian Standards (BIS) is the National Standards Body of India responsible for the development and implementation of standards across various sectors. It certifies products, services, and systems, including the IS/ISO 9001:2015 Quality Management System certification. BIS operates through regional offices, including the Southern Regional Office, which awarded the certification to Arthunkal Police Station. The organization plays important role in ensuring quality, safety, and reliability in Indian industries and services. BIS also facilitates adoption of international standards to promote global competitiveness and quality governance.

Why in news?

BIS awarded the IS/ISO 9001:2015 QMS certification to Arthunkal Police Station in July 2025, recognizing its commitment to quality service standards.

Central Board of Indirect Taxes and Customs (CBIC)

The **Central Board of Indirect Taxes and Customs** (CBIC) is a part of the Department of Revenue under the Ministry of Finance. It administers the country's indirect tax laws, including Goods and Services Tax (GST), customs, central excise, and service tax. CBIC is responsible for policy formulation, tax administration, and enforcement related to indirect taxes. It also oversees the functioning of customs and excise departments, including laboratories like CRCL. CBIC plays a key role in trade facilitation and revenue collection, leveraging technology and scientific methods to improve compliance and ease of doing business.

Why in news?

CBIC co-organized the Trade Facilitation Conference 2025 to promote scientific excellence and modernize trade testing frameworks.

Chakma Autonomous District Council (CADC)

The Chakma Autonomous District Council is one of the 10 autonomous district councils in Northeast India, established under the Sixth Schedule of the Constitution of India to administer tribal areas. It covers Chakma-dominated regions in Mizoram and provides self-governance on local matters including land, forest, and cultural preservation. The council has 20 members, with 17 elected representatives. It was formed to protect the rights and identity of the Chakma tribe, a Buddhist ethnic group. The CADC has its own executive and legislative functions but remains under the supervision of the Mizoram

state government. It plays a key role in local administration and development.

Why in news?

Governor V.K. Singh imposed direct governor's rule on the Chakma Autonomous District Council after a no-confidence motion ousted the BJP-led government, preventing the Zoram People's Movement from taking power.

Collegium System

The Collegium system in India is a judicial mechanism for appointing and transferring judges in the higher judiciary, comprising the Chief Justice of India and a forum of senior Supreme Court judges. It operates independently of the executive branch to maintain judicial autonomy. The system evolved through Supreme Court judgments rather than legislation and lacks formal codification. Critics cite its opacity and lack of transparency, while proponents argue it protects judicial independence. Recent debates focus on enhancing inclusivity, such as recommending persons with disabilities for judicial appointments. The Collegium's decisions shape the composition and functioning of India's judiciary.

Why in news?

The report recommends the Collegium adopt a holistic approach to judicial appointments by proactively identifying and recommending qualified persons with disabilities to improve representation.

Competitive Federalism

Competitive Federalism in India refers to the dynamic where states use their legislative and political autonomy to attract investments by designing favorable policies and improving business conditions. This model encourages states to compete for capital and industrial projects, encouraging economic growth and innovation. It contrasts with a purely centralized approach by emphasizing decentralization and state-led development. The concept gained prominence in the 2010s and has been credited with accelerating infrastructure development and industrial expansion in several states. It is considered a key factor in India's potential to become a global manufacturing hub and double per capita income within a decade.

Why in news?

The Morgan Stanley report brought into light the importance of competitive federalism in enabling state of Indias to contribute to the country's projected $10.6 trillion economy by 2035.

Curative Petition

A curative petition is the last judicial remedy available in the Supreme Court of India to prevent miscarriage of justice after a review petition is dismissed. Introduced in 2002, it is filed to rectify gross miscarriage or violation of principles of natural justice. The petition is heard by the same judges who delivered the original judgment or their senior-most colleagues. It requires certification that the petition is not being filed for delay tactics. Curative petitions are rare and only entertained in exceptional cases where fundamental

justice is at stake.

Why in news?

The government may file a curative petition to attempt reversal of the April 8 Supreme Court ruling on timelines for President's assent to Bills.

Department for Promotion of Industry and Internal Trade (DPIIT)

The **Department for Promotion of Industry and Internal Trade (DPIIT)** is an agency under the Ministry of Commerce and Industry, Government of India. Established in 1995, it promotes industrial growth and foreign direct investment (FDI) in India. DPIIT formulates policies related to industrial development, intellectual property rights, and consumer protection. It is responsible for implementing initiatives like 'Make in India' and 'Startup India'. DPIIT also releases key economic data such as the core sector growth figures and index of industrial production (IIP). It plays a critical role in coordinating between various government departments to boost industrial output and investment climate.

Why in news?

DPIIT released data showing subdued growth in India's eight key infrastructure industries in June 2025, denoting challenges in core sector output affecting overall industrial growth.

e-Roznamcha Vakyati

The **e-Roznamcha Vakyati** is a digital daily diary system introduced for Patwaris (village-level land record officers) in India. It replaces traditional paper-based diaries with an electronic format to record daily activities, land surveys, and transactions. This system improves data accuracy, transparency, and accountability by providing real-time updates accessible to higher authorities. It facilitates better monitoring of fieldwork and reduces discrepancies in land records. The e-Roznamcha Vakyati integrates with other digital land management systems to streamline operations and enhance governance in rural revenue administration.

Why in news?

Launched by the Himachal Pradesh government alongside NGDRS to digitize Patwari daily records, promoting transparency and efficiency in land revenue administration.

Enumeration Forms

Enumeration Forms are official documents distributed to registered electors for updating voter information during electoral roll revisions. They capture personal details, address changes, and new voter registrations. These forms are essential for maintaining accurate voter lists and are collected through house visits by BLOs or submitted online via the ECINET App. Partially filled forms can be saved and completed later. The forms also allow for the inclusion of photographs, often taken live by BLOs during visits. Enumeration Forms play important role in the claims and objections phase, where discrepancies and deficiencies in voter data are addressed before finalizing the electoral roll.

Why in news?

Enumeration Forms are being actively distributed and collected in Bihar as part of the SIR process, with 21.46% of total electors submitting their forms by late June 2025.

Govind Ghat–Hemkund Sahib Ropeway

The **Govind Ghat–Hemkund Sahib ropeway** is an ambitious infrastructure project in Uttarakhand, designed to improve access to Hemkund Sahib, a revered Sikh pilgrimage site located at an altitude of 4,632 meters. Hemkund Sahib is dedicated to Guru Gobind Singh, the tenth Sikh Guru. The ropeway project, costing ₹2,700 crore, aims to reduce the strenuous trek of 19 kilometers from Govind Ghat to Hemkund Sahib, making the pilgrimage safer and more accessible, especially for elderly and differently-abled devotees. The project is expected to boost religious tourism and local economy while minimizing environmental impact.

Why in news?

Union Home Minister Amit Shah inaugurated the foundation stone for the ₹2,700 crore Govind Ghat–Hemkund Sahib ropeway during the Uttarakhand Investment Festival 2025.

Indian Telegraph Act, 1885

The **Indian Telegraph Act, 1885** was originally enacted to regulate telegraphy in British India. It allows the government to intercept communications under Section 5(2) during public emergencies or in the interest of public safety. Though initially for telegrams, it now covers telephone calls and other forms of communication. The Act is over 140 years old and has been amended to keep pace with technological changes. It requires authorization by senior government officials and mandates review by a high-level committee. The Act's interception powers are subject to constitutional safeguards to protect fundamental rights like privacy and free speech.

Why in news?

The Delhi and Madras High Courts recently issued contrasting rulings on phone tapping under this Act, denoting its application in economic offence investigations and constitutional limits.

Karbi Anglong Autonomous District Council (KADC)

The Karbi Anglong Autonomous District Council administers the Karbi tribal areas in Assam and was created under the Sixth Schedule. It has legislative and executive powers over local governance, customary laws, and resource management. The council has 30 members, with elections held every five years. Political instability has been a recurring issue, with party defections influencing control. In 2016, the BJP gained power after members of the opposition Congress shifted allegiance. The council's term was extended by the Assam Governor in 2017 to delay elections, enabling the BJP to consolidate power.

Why in news?

The KADC is referenced as a precedent where the Assam Governor supported the BJP in power transition, unlike the Mizoram Governor's recent actions in the Chakma Autonomous District Council.

Khasi Hills Autonomous District Act, 1997

The **Khasi Hills Autonomous District (Khasi Social Custom of Lineage) Act, 1997** governs the recognition of Khasi identity and lineage. It codifies the matrilineal customs of

the Khasi tribe, ensuring tribal membership is traced through the mother's line. The Act defines criteria for registration and issuance of tribal certificates, which are essential for accessing Scheduled Tribe benefits. It is unique in legally protecting matriarchal lineage in India. The law also regulates surname adoption within the Khasi community, a key factor in determining tribal status. It operates under the Sixth Schedule of the Constitution of India, granting autonomy to tribal governance.

Why in news?

The Act is central to a legal dispute over the issuance of Scheduled Tribe certificates to Khasi applicants who adopt parental or spousal surnames, impacting tribal recognition and benefits.

Lok Sabha Select Committee

The Lok Sabha Select Committee is a parliamentary body formed to examine specific bills or issues in detail. It comprises members of the Lok Sabha, India's lower house of Parliament, and provides recommendations to improve legislation. Select committees analyze complex matters, hold hearings, and consult experts before reporting to the house. Their reports often influence the final shape of laws. Select committees are temporary and dissolve after submitting their report. They play important role in democratic lawmaking by ensuring detailed scrutiny beyond general parliamentary debates.

Why in news?

The Lok Sabha Select Committee tabled its report on the draft Income Tax Bill, 2025, recommending changes that could widen transfer pricing provisions and redefine associated enterprises.

Mahadayi Water Disputes Tribunal

The **Mahadayi Water Disputes Tribunal** was established in **November 2010** to adjudicate water-sharing conflicts among **Goa, Maharashtra, and Karnataka**. It addresses disputes over the **Mahadayi River**, also known as the Mandovi River, which is a vital water source in the Western Ghats region. The tribunal has faced delays due to complex inter-state claims and ecological concerns. It operates under the **Inter-State River Water Disputes Act, 1956**. The tribunal's rulings impact drinking water, irrigation, and hydroelectric projects in the involved states.

Why in news?

The tribunal continues to function under extended timelines, denoting ongoing challenges in resolving inter-state river water disputes in India.

Ministry of Panchayati Raj (MoPR)

The **Ministry of Panchayati Raj (MoPR)** is a Government of India ministry responsible for strengthening Panchayati Raj Institutions (local self-government in villages). Established in 2004, it promotes decentralization and participatory democracy through Gram Panchayats. MoPR formulates policies, provides funding, and supports capacity building for rural governance. It collaborates with NIC for digital initiatives like Meri Panchayat. The

ministry also monitors implementation of the 73rd Constitutional Amendment Act, which mandates Panchayati Raj. MoPR plays a key role in rural development, transparency, and empowering elected representatives at the grassroots.

Why in news?

MoPR's Union Minister Shri Rajiv Ranjan Singh received the WSIS Champion Certificate for the Meri Panchayat initiative, emphasizing digital governance reforms.

Ministry of Statistics and Programme Implementation (MoSPI)

The **Ministry of Statistics and Programme Implementation (MoSPI)** is a central government ministry in India responsible for the collection, compilation, and dissemination of statistical data. Established in 1999, MoSPI oversees various statistical organizations, including NSO. It formulates statistical standards and coordinates statistical activities across government departments. MoSPI plays a key role in monitoring and evaluating government programs through data-driven insights. The ministry also manages the Indian Statistical Service (ISS), a specialized cadre of statisticians. MoSPI's data supports economic planning, policy formulation, and international reporting obligations.

Why in news?

MoSPI is the parent ministry behind the GoIStats app initiative, reflecting its commitment to improving data accessibility and transparency.

Mumbai Central Prison

Mumbai Central Prison is one of the oldest correctional facilities in India, located in Mumbai, Maharashtra. It primarily houses undertrial prisoners and convicts from Mumbai and surrounding areas. The prison follows guidelines from the Model Prison Manual issued by the Ministry of Home Affairs, which includes specific dietary requirements based on religion and health. Despite these guidelines, compliance with court orders regarding special diets, such as Jain food, has been inconsistent. The prison kitchen management prohibits caste or religion-based segregation in cooking. It adapts food provisions during religious fasting periods like Ramzan and Shravan, offering items like fruits and sabudana-based dishes.

Why in news?

The Mumbai Central Prison was issued a show-cause notice after an undertrial prisoner, Riteshkumar S Shah, complained that the prison failed to provide Jain food as ordered by the court, forcing him to survive mainly on chapatis since May 2025.

National Disaster Management Authority (NDMA)

The **National Disaster Management Authority (NDMA)** is an Government of India agency responsible for formulating policies, plans, and guidelines for disaster management. Established under the Disaster Management Act, 2005, it coordinates disaster response and mitigation efforts across states. NDMA oversees preparedness, capacity building, and early warning systems. It played a key role in developing the BHISHM cubes, integrating technology like RFID and AI for efficient emergency healthcare

delivery. NDMA's initiatives emphasize rapid deployment of resources during crises, improving coordination among agencies and enhancing resilience against natural and man-made disasters.

Why in news?

NDMA guided the development of the BHISHM cubes, which were recently gifted by India to Maldives to boost emergency medical response capabilities in the Indian Ocean region.

National Institute of Rural Development and Panchayati Raj (NIRDPR)

The **National Institute of Rural Development and Panchayati Raj (NIRDPR)** is an autonomous organization under the Ministry of Rural Development, Government of India, headquartered in Hyderabad. It focuses on rural development, Panchayati Raj institutions, and capacity building for rural governance. Established in 1962, NIRDPR offers training, research, and consultancy services to improve rural livelihoods. It functions as a think tank for policy formulation and implementation in rural development. The institute also collaborates with international agencies and state governments. Its governance structure includes a General Council chaired by the Union Minister of Rural Development.

Why in news?

NIRDPR is in the news due to the Parliamentary Standing Committee's report denoting governance issues and recommending urgent reforms to improve its institutional autonomy and functioning.

Niti Aayog

Niti Aayog is the **policy think tank** of the Government of India, established in 2015 to replace the Planning Commission. It acts as a central agency for strategic planning and cooperative federalism, encouraging partnerships between states and the central government. Niti Aayog promotes sustainable development, innovation, and economic growth through data-driven policymaking. It comprises experts from diverse sectors and advises on reforms and initiatives across various domains, including energy, agriculture, and technology. The organization also facilitates international collaborations and investment opportunities.

Why in news?

Niti Aayog is leading discussions with ministries and departments to develop the Battery Passport framework and related EV policies.

Project Insight

Project Insight is an integrated data analytics platform launched by the Indian Income Tax Department to create a comprehensive financial profile of taxpayers. It consolidates data from multiple sources including GST Network (GSTN), banks, financial institutions, and property registries. The platform uses advanced algorithms to detect discrepancies in tax filings and financial transactions, enabling proactive compliance measures. Project Insight supports non-intrusive taxpayer nudges rather than direct enforcement, enhancing voluntary compliance. It is part of the government's broader push for data-driven governance and transparency in tax administration, improving efficiency in tax

assessments and fraud detection.

Why in news?

Project Insight was mentioned as a key tool in India's modernized tax system that supports voluntary compliance and data integration during the 166th Income Tax Day celebrations in 2025.

Public Account of India

The **Public Account of India** is a government account under Article 266(2) of the Constitution, used to manage funds where the government acts as a banker. It includes provident funds, small savings, and reserve funds like the National Disaster Response Fund (NDRF). Money in this account does not belong to the government and must be repaid. Expenditures from the Public Account do not require parliamentary approval. The Public Account is separate from the Consolidated Fund of India and is crucial for managing non-tax revenue and specific reserve funds efficiently.

Why in news?

The NDRF, placed under the Public Account, was utilized in July 2025 to allocate ₹1,066.80 crore to six States affected by floods and landslides during the monsoon.

Ravi and Beas Waters Tribunal

The **Ravi and Beas Waters Tribunal** was constituted in **April 1986** to resolve water-sharing disputes among **Punjab, Haryana, and Rajasthan**. It is India's **oldest water dispute tribunal** and has been extended repeatedly, operating for over **39 years**. Although it submitted a report in **1987**, clarifications requested by the states have kept the case unresolved. The tribunal's decisions are crucial for the **Sutlej-Yamuna Link (SYL) canal dispute**. It functions under the **Inter-State River Water Disputes Act, 1956** and is one of four tribunals still active with annual extensions.

Why in news?

The tribunal received a one-year extension from August 5, 2025, as it has not yet resolved the long-standing water-sharing dispute among Punjab, Haryana, and Rajasthan.

SHAKTI Policy

The **SHAKTI Policy** is an Government of India initiative for coal linkage allocation to the power sector. It replaced earlier coal allocation methods with a transparent, competitive system to enhance efficiency and coal availability. The policy divides coal allocation into two windows – Window I offers coal at a notified price to Central and State GENCOs, while Window II allows all GENCOs to purchase coal at a premium. It applies to Central GENCOs, State GENCOs, and Independent Power Producers (IPPs). The policy aims to increase coal supply, promote mining activities, and generate revenue for state development.

Why in news?

The Revised SHAKTI Policy, 2025 was announced to simplify coal allocation, improve coal availability for power generation, and enhance mining activities, benefiting the power sector and state economies.

Shastri Bhawan

Shastri Bhawan is a government office complex located in New Delhi, housing multiple

ministries and departments of the Government of India. Named after Lal Bahadur Shastri, India's second Prime Minister, it serves as an important administrative hub. The building is known for its central location and colonial-era architecture. It has undergone several renovations to accommodate modern office needs while preserving its historical significance. Shastri Bhawan often serves as the venue for key government events and announcements, making it a focal point for administrative activities in the capital.

Why in news?

Mahila Aarogyam Kaksh was inaugurated inside Shastri Bhawan, marking a new wellness initiative for women employees in this government complex.

State Instructional Representation (SIR)

The **State Instructional Representation (SIR)** order is a regulatory directive issued by the Election Commission to govern electoral processes within states. On June 24, 2025, the SIR order revised the maximum number of electors per polling station from 1,500 to 1,200 in Bihar. The order aims to reduce overcrowding and improve voter convenience. It sets guidelines for polling station management, voter registration, and election logistics. The SIR framework is designed to be adaptable and may serve as a model for other states and Union Territories for future elections, enhancing uniformity and efficiency in electoral administration.

Why in news?

The SIR order issued on June 24, 2025, led to Bihar becoming the first state to cap electors per polling station at 1,200, prompting the creation of 12,817 new polling stations ahead of the 2025 elections.

Syngkhong Rympei Thymmai

Syngkhong Rympei Thymmai is a Khasi community organization representing tribal interests in Meghalaya. It advocates for the protection of Khasi customs, particularly in matters of lineage and tribal identity. The group actively engages in legal and social campaigns to safeguard the rights of Khasi people under the Sixth Schedule. It played a very important role in filing a public interest litigation challenging the Social Welfare Department's reversal of a policy related to surname adoption and tribal certificate issuance. The organization is led by General Secretary Armour Lyngdoh and is influential in Khasi socio-political affairs.

Why in news?

Syngkhong Rympei Thymmai filed a petition opposing government policy changes that halted Scheduled Tribe certificate issuance to Khasis adopting certain surnames, triggering a Meghalaya High Court hearing.

Unique Identification Authority of India (UIDAI)

The **UIDAI** is a statutory authority established in 2009 under the Government of India, responsible for issuing **Aadhaar**, a unique 12-digit identity number to residents. UIDAI manages Aadhaar authentication services, including biometric and demographic verification. It provides APIs for e-KYC and other identity services to government and

private entities. UIDAI oversees data security, privacy, and compliance with the Aadhaar Act. It has enrolled over 1.3 billion residents, making Aadhaar the world's largest biometric ID system. UIDAI's services are used widely for subsidies, financial inclusion, and digital identity verification across India.

Why in news?

UIDAI's e-KYC services continue to be a primary mechanism for digital client verification in financial markets, now supplemented by NPCI's e-KYC Setu System.

Unlawful Activities (Prevention) Act (UAPA)

The Unlawful Activities (Prevention) Act (UAPA) is an Indian law enacted in 1967 to prevent unlawful activities threatening the sovereignty and integrity of India. It allows the government to designate individuals and organizations as terrorists and terrorist groups, enabling preventive detention, seizure of property, and prosecution. Amendments in 2019 expanded the law's scope, including provisions for designating individuals as terrorists. The UAPA is frequently used to ban and prosecute groups involved in terrorism, such as The Resistance Front, which was declared a terrorist organization under UAPA in January 2023.

Why in news?

The Government of India's designation of The Resistance Front as a terrorist organization under UAPA in 2023 laid the groundwork for the US Department of State's later designation of the group as an FTO and SDGT in 2025.

VAHAN Database

The **VAHAN database** is India's national vehicle registry managed by the Ministry of Road Transport and Highways. It contains detailed information on all registered vehicles, including ownership, registration date, and vehicle type. VAHAN supports real-time verification for enforcement agencies via integration with technologies like ANPR cameras. It helps track vehicle age, enabling policies targeting end-of-life vehicles (ELVs). The database is regularly updated by state transport departments and is critical for implementing vehicle scrapping rules and pollution control measures. VAHAN also facilitates online services like vehicle registration and tax payment.

Why in news?

Delhi's fuel ban enforcement relies on VAHAN data to identify vehicles older than allowed age limits and deny them fuel at petrol stations starting July 2025.

Writ of Mandamus

A writ of mandamus is a judicial order compelling a public authority to perform a duty it is legally obligated to complete. In India, the Supreme Court can issue this writ to direct the President or other officials to act on pending matters. It is a constitutional remedy under Article 32 and Article 226. The writ ensures enforcement of public duties and protects citizens' rights. It cannot be issued if the authority has discretionary powers unless there is a clear legal duty. It is a critical tool for judicial oversight over executive inaction.

Why in news?

The Supreme Court allowed states to seek a writ of mandamus against the President if she

fails to decide on Bills within a three-month timeline set by the Court.

Economy & Banking/Finance

Anti-Dumping Duty (ADD)

Anti-Dumping Duty (ADD) is a protectionist tariff imposed by a country on foreign imports believed to be priced below fair market value, often due to subsidies or dumping practices. It aims to protect domestic industries from unfair competition. ADD investigations are conducted by specialized government bodies, such as India's Directorate General of Anti-Dumping and Allied Duties (DGAD). The duty can be circumvented through technical exemptions, mis-declaration, or exports via exempted firms. ADD does not cover all product categories uniformly; for example, raw jute imports from Bangladesh remain outside its scope, creating challenges for domestic producers facing subsidized imports.

Why in news?

India imposed ADD on Bangladeshi jute products to counter subsidized imports but faced challenges due to circumvention, leading to recent import restrictions via land routes.

ASEAN–India Cruise Tourism Corridor

The ASEAN–India Cruise Tourism Corridor is a proposed integrated maritime network aimed at linking Indian and ASEAN ports to facilitate cruise tourism and cultural exchange. It focuses on developing modern port infrastructure, real-time tracking systems, and streamlined customs and immigration processes. The corridor supports sustainable tourism growth, economic cooperation, and enhanced connectivity across the Bay of Bengal and Indian Ocean regions. It aligns with India's Maritime Amrit Kaal Vision 2047 and ASEAN Community Vision 2045, promoting people-to-people ties and regional integration. The corridor is expected to boost employment, trade, and tourism while preserving cultural heritage along coastal routes.

Why in news?

The ASEAN–India Cruise Tourism Corridor was a key agenda item at the ASEAN-India Cruise Dialogue 2025, aiming to establish a sustainable cruise circuit and strengthen maritime cooperation between India and ASEAN nations.

Asian Development Bank (ADB)

The **Asian Development Bank (ADB)** is a multilateral development bank established in 1966, owned by 69 members, including 50 from Asia and the Pacific. It supports inclusive, resilient, and sustainable growth by providing innovative financial tools and strategic partnerships. ADB focuses on infrastructure development, poverty reduction, and environmental sustainability. It plays a key role in regional cooperation and development, addressing complex challenges such as health system strengthening, climate change, and economic growth. ADB's health initiatives include promoting universal health coverage and pandemic preparedness in member countries.

Why in news?

ADB President Masato Kanda announced the launch of UHC PEERS and hosted the

INSPIRE Health Forum in July 2025 to promote universal health coverage and health system resilience.

Asian Infrastructure Investment Bank (AIIB)

The **Asian Infrastructure Investment Bank (AIIB)** is a multilateral development bank headquartered in Beijing, established in 2016 to support infrastructure projects across Asia. It has 110 member countries and a capital stock of **$100 billion**, with 20% paid-in capital. India is the second-largest shareholder after China. AIIB focuses on sectors like renewable energy, green mobility, and affordable housing. It uses a rigorous project selection and monitoring process to de-risk investments, often acting as an anchor investor to attract private capital. AIIB also provides trade finance and supports projects during global crises like pandemics.

Why in news?

AIIB aims to increase private-sector financing to 50% from 24.6% and raise total lending to $17-18 billion, focusing on India's infrastructure needs and collaborating with government and private sectors.

Bhim 3.0

Bhim 3.0 is the latest version of the Bharat Interface for Money app, launched with new features to track, monitor, and split expenses. It offers enhanced user experience and financial management tools. The update focuses on improving payment transparency and budgeting for users. It supports UPI-based transactions and integrates expense-sharing capabilities. The app has undergone a user-interface revamp to increase engagement and ease of use. Bhim 3.0 also promotes small-value transactions and aims to boost regular usage through targeted incentives like cashbacks on mobile recharges and bill payments.

Why in news?

Bhim 3.0 was launched recently as part of Bhim's strategy to regain market share and increase monthly transactions, which have nearly doubled in six months.

Capital Adequacy Ratio (CAR)

The **Capital Adequacy Ratio (CAR)** is a measure of a bank's capital expressed as a percentage of its risk-weighted credit exposures. It ensures banks can absorb a reasonable amount of loss and protects depositors. The ratio is calculated by dividing the bank's capital by its risk-weighted assets. Regulatory bodies like the RBI mandate minimum CAR levels to maintain financial stability. CAR includes Tier 1 capital (core capital) and Tier 2 capital (supplementary capital). A higher CAR indicates a bank is better capitalized. Basel III norms require banks to maintain a minimum CAR of 8%, with additional buffers.

Why in news?

SBI's capital adequacy ratio was 14.25% as of March 2025, and the recent fund raise is expected to add over 60 basis points to this ratio.

Capital Goods Sector

The **capital goods sector** in India comprises industries producing machinery, equipment,

and tools used to manufacture other goods. It includes heavy machinery, electrical equipment, and industrial tools. Capital goods are a key driver of industrial growth and investment, reflecting both domestic manufacturing capacity and infrastructure development. The sector's performance is a leading indicator of economic health, as it signals business investment trends. In India, capital goods output is tracked under the IIP and is sensitive to government policies, public and private capex, and global economic conditions. Growth in this sector often precedes expansion in other industrial sectors.

WHY IN NEWS?

Capital goods growth decelerated to 3.5 per cent in June 2025, reflecting subdued private investment despite encouraging public spending amid global uncertainties.

Central Board of Direct Taxes (CBDT)

The **Central Board of Direct Taxes (CBDT)** is a part of the Department of Revenue in the Ministry of Finance. It formulates policies related to direct taxes such as income tax and oversees their administration through the Income Tax Department. CBDT members are senior IRS officers appointed by the government. The board plays a key role in tax reforms, enforcement, and dispute resolution. It also coordinates with other government agencies on financial intelligence and compliance. The Chairman of CBDT is the administrative head and reports directly to the Finance Minister.

WHY IN NEWS?

Nitin Gupta, former Chairman of CBDT, was appointed Chairperson of NFRA, denoting his transition from tax administration to financial reporting regulation.

Central Coalfields Limited (CCL)

Central Coalfields Limited (CCL) is a subsidiary of Coal India Limited, operating primarily in Jharkhand and parts of Chhattisgarh. Established in 1956, CCL manages extensive coal mining operations, including open-cast and underground mines. It is one of India's largest coal producers, contributing to the country's energy sector. CCL has implemented advanced safety protocols and environmental management systems to reduce mining hazards and ecological impact. The company also engages in community development programs, including education, healthcare, and infrastructure in mining regions. CCL's collaboration with Jharkhand Tourism Development Corporation marks its first involvement in mining tourism.

WHY IN NEWS?

CCL signed a five-year MoU with Jharkhand Tourism Development Corporation to develop mining tourism circuits, starting with North Urimari open-cast mines.

Cold-Water Fisheries Cluster

A Cold-Water Fisheries Cluster is a designated geographic area focused on the integrated development of cold-water fishery resources, including breeding, production, processing, and marketing. The Ministry of Fisheries formally designated Anantnag as the primary Cold-Water Fisheries Cluster with Kulgam and Shopian as partner districts in Jammu and Kashmir. This cluster approach promotes value-chain development, sustainable

livelihoods, and regional economic growth by leveraging the area's natural cold-water resources. It helps coordinate infrastructure, technology, and market linkages to maximize fishery output and employment in the cold-water aquaculture sector.

Why in news?

Anantnag was officially designated as a Cold-Water Fisheries Cluster with Kulgam and Shopian as partner districts to boost integrated value-chain development and sustainable livelihoods in Jammu and Kashmir.

Credit-Deposit Ratio

The **credit-deposit (CD) ratio** is a key financial metric used by banks to assess liquidity and risk. It is calculated by dividing total loans by total deposits. A CD ratio above 100% indicates a bank is lending more than its deposits, potentially risking liquidity. Conversely, a lower ratio signals conservative lending. The ideal CD ratio varies by country and banking regulations, but typically ranges between 70% and 90%. In India, a CD ratio around 80-85% is considered balanced. Banks monitor this ratio closely to maintain financial stability and regulatory compliance.

Why in news?

HDFC Bank reduced its CD ratio from 110% post-merger to 96% by March 31, 2025, marking improved liquidity and financial health after merging with HDFC Ltd.

Cruise Bharat Mission

The **Cruise Bharat Mission** is an initiative by the Government of India aimed at developing a globally competitive cruise tourism industry. It focuses on improving port infrastructure, streamlining regulations, and promoting cruise tourism along India's extensive coastline. The mission encourages states to develop cruise terminals, enhance maritime connectivity, and boost economic growth through tourism. It also aims to increase passenger traffic and integrate cruise tourism with local cultural and heritage experiences. The mission targets both domestic and international tourists, emphasizing sustainable development and collaboration between central and state governments to position India as a major cruise destination.

Why in news?

Gujarat has become the first state of India to officially align with the Cruise Bharat Mission, aiming to develop its maritime tourism sector and establish dedicated cruise infrastructure.

Dated Securities Maturities

Dated securities are government-issued bonds with fixed maturity periods, ranging from 3 to 50 years in India. The share of borrowings by maturity is carefully planned – 3-year (5.3%), 5-year (11.3%), 7-year (8.2%), 10-year (26.2%), 15-year (14.0%), 30-year (10.5%), 40-year (14.0%), and 50-year (10.5%). These securities pay periodic interest and return principal at maturity. Longer maturities help lock in borrowing costs, while shorter maturities provide liquidity. The government uses these instruments to manage debt servicing and investor preferences.

Why in news?

The March 2025 Ministry of Finance statement outlined the borrowing plan for FY 2025-26, including the distribution of market borrowings across various dated securities maturities.

Diammonium Phosphate (DAP)

Diammonium phosphate (DAP) is a widely used phosphate fertiliser with the chemical formula (NH4)2HPO4. It provides essential phosphorus and nitrogen nutrients to plants, boosting crop yields. DAP is highly soluble in water and commonly applied directly to soil or as a foliar spray. India imports about **60% of its DAP**, mainly from Gulf countries and Jordan. Phosphorus in DAP is critical for root development and energy transfer in plants. The production of DAP depends on phosphate rock, which is unevenly distributed globally, with Morocco holding 70% of reserves. Disruptions in DAP supply can directly affect food production in India.

Why in news?

DAP imports to India are at risk due to the Iran-Israel conflict and related geopolitical tensions in the Middle East, threatening the timely availability of this vital fertiliser for upcoming crop seasons.

e-Bikray Portal

e-Bikray was the first centralized e-auction portal launched in February 2019 for public sector banks in India to list and sell bank-owned properties. It aimed to streamline the disposal of non-performing assets but had a lower auction success rate of 9%. The average annual successful bid value on e-Bikray was Rs 5,267 crore before BAANKNET replaced it. The platform lacked multimedia support for property listings, which limited transparency for buyers. It played a foundational role in digitizing asset sales but was superseded by BAANKNET due to its limited effectiveness and lower recovery rates.

Why in news?

e-Bikray is mentioned as the predecessor to BAANKNET, denoting the improvements and increased efficiency achieved by the new platform in public sector bank asset recovery.

e-KYC Setu System

The **e-KYC Setu System** is a digital platform developed jointly by the **National Payments Corporation of India (NPCI)** and the **Unique Identification Authority of India (UIDAI)**. It facilitates Aadhaar-based electronic Know Your Customer (e-KYC) verification for faster and secure customer onboarding. The system acts as an intermediary to streamline data exchange between financial institutions and UIDAI, reducing manual intervention. It supports authentication via Aadhaar biometrics or OTP and integrates with various digital platforms like DigiLocker. The system enhances compliance with regulatory KYC norms while ensuring data privacy and security through encrypted communication channels.

Why in news?

Sebi allowed registered intermediaries to use the e-KYC Setu System as an additional option for digital KYC verification, easing the Know Your Client process in securities markets.

Eligibility Criteria for Business Authorisation (ECBA)

The ECBA is a regulatory framework introduced by the Reserve Bank of India to replace the Financially Sound and Well Managed (FSWM) norms for urban co-operative banks. It sets conditions on capital adequacy ratio (CAR), asset quality, profitability, and reserve ratios for banks to obtain permissions for new branches, ATMs, and infrastructure. Compliance is assessed annually based on audited financials as of March 31 of the previous year. Banks must maintain net NPAs below 3%, report profits for two consecutive years, and avoid defaults on Cash Reserve Ratio (CRR) and Statutory Liquidity Ratio (SLR). The framework mandates CBS implementation and professional directors on boards.

Why in news?

The RBI announced the ECBA framework in July 2025 as a new regime to regulate urban co-operative banks, replacing the older FSWM norms for branch expansion and infrastructure approvals.

Ethanol Blending Program

India's ethanol blending program aims to mix ethanol with petrol to reduce fossil fuel consumption and emissions. It started with a 1.5% blend in 2014 and reached **20% blending by 2025**, five years ahead of the 2030 target. Ethanol is mainly produced from sugarcane and molasses. The program has increased ethanol production from **38 crore litres in 2014 to 661.1 crore litres in 2025**. It supports energy security, reduces crude oil imports, and lowers carbon emissions. The initiative also boosts rural incomes by paying farmers and distilleries for ethanol production.

Why in news?

India achieved 20% ethanol blending in petrol in 2025, accelerating its clean energy goals and reducing fossil fuel dependency.

External Benchmark Linked Loans

External benchmark linked loans are loans whose interest rates are tied to external reference rates like the RBI repo rate or government bond yields, rather than internal bank benchmarks. In India, about **42%** of total bank loans are linked to such benchmarks. This linkage allows loan rates to adjust automatically with changes in policy rates, impacting banks' interest income immediately when rates are cut or hiked. This mechanism was introduced to enhance transparency and ensure quicker transmission of monetary policy changes to borrowers.

Why in news?

Banks passing on repo rate cuts to external benchmark linked loans have seen reduced interest income, contributing to a decline in net interest margins and overall profitability in Q1FY26.

External Commercial Borrowings (ECBs)

External Commercial Borrowings (ECBs) are loans raised by Indian companies from foreign sources with a minimum maturity of three years. ECBs can be in the form of bank loans, buyers' credit, securitized instruments, or bonds. They are regulated by the Reserve

Bank of India (RBI) under the Foreign Exchange Management Act (FEMA). ECBs are used primarily for capital expenditure, refinancing existing debts, or general corporate purposes. The interest rates on ECBs can be fixed or floating, often linked to international benchmarks like LIBOR or alternative reference rates. ECBs are critical for funding infrastructure and manufacturing sectors in India.

WHY IN NEWS?

ECBs inflows surged 158% to $4.4 billion in April-May 2025, but registrations declined by 31.32% in the same period, reflecting changing borrowing patterns by Indian firms.

Genius Act

The **Genius Act** is a legislative bill passed by the US House of Representatives aimed at regulating US dollar-pegged stablecoins. It requires stablecoin issuers to back tokens with liquid assets like US dollars and short-term Treasury bills. Issuers must also disclose reserve compositions monthly. The bill received **bipartisan support** with a vote of 308-122. It represents move toward federal regulation of the crypto industry, which previously operated in a largely unregulated environment. The bill targets transparency and financial stability within the stablecoin market.

WHY IN NEWS?

The Genius Act was passed by the US House and sent to President Donald Trump for signature, marking a major development in stablecoin regulation in July 2025.

Gini Index

The **Gini Index** is a statistical measure of income or wealth inequality within a nation or group, ranging from 0 (perfect equality) to 100 (maximum inequality). Developed by Italian statistician Corrado Gini in 1912, it quantifies how evenly income is distributed across households. It is widely used by economists and policymakers to compare inequality across countries and time periods. The index can be applied to income, wealth, or consumption data. A low Gini score indicates a more equal society, while a high score suggests income disparity. It is sensitive to changes in the middle of the income distribution.

WHY IN NEWS?

India's Gini Index improved from 28.8 in 2011 to 25.5 in 2022-23, making it the fourth-most equal country globally according to a World Bank report.

Global Findex Report

The **Global Findex Report** is a comprehensive database on how adults worldwide use financial services, compiled by the World Bank every three years since 2011. It surveys over 140,000 adults in more than 140 economies, tracking account ownership, digital payments, savings, and credit. The report marks disparities in financial inclusion by gender, income, and education. It introduced mobile money as a key metric in 2014. The 2025 edition shows 79% global account ownership and gains in low- and middle-income economies. The data informs policy-making and development programs aimed at expanding access to formal financial systems.

Why in news?

The 2025 Global Findex Report revealed record growth in financial inclusion, especially in low- and middle-income countries, driven by mobile money and digital finance innovations.

Grandfathering Provision (Finance Act 2024)

The **Grandfathering Provision** introduced in the Finance Act 2024 protects certain taxpayers from losing indexation benefits on long-term capital gains tax. It allows resident individuals and HUFs to continue using inflation-adjusted purchase prices for assets bought before July 23, 2024, even after the scope of indexation was narrowed. This provision lets taxpayers choose between paying 20% LTCG tax with indexation or a flat 12.5% without it. The aim is to safeguard investments made before the law change, preventing sudden tax hikes on gains accrued prior to July 2024.

Why in news?

The grandfathering clause enables taxpayers holding assets before July 23, 2024, to benefit from the updated CII of 376 for FY 2025-26, despite the restricted indexation rules post-2024.

Henley Passport Index

The **Henley Passport Index** ranks passports based on the number of destinations their holders can access without a prior visa. It uses data from the International Air Transport Association (IATA). The index covers 227 travel destinations worldwide. Singapore currently holds the top position with visa-free or visa-on-arrival access to 193 locations. Seven European Union countries share the third rank, each allowing access to 189 destinations. The index is updated quarterly to reflect changes in visa policies globally. It is widely used by governments, businesses, and travelers to assess travel freedom and passport strength.

Why in news?

India has climbed eight places on the Henley Passport Index 2025, moving from 85th to 77th rank, reflecting changes in visa-free access for Indian passport holders.

Hindu Undivided Families (HUF)

A **Hindu Undivided Family (HUF)** is a legal entity recognized under Indian tax law, comprising all persons lineally descended from a common ancestor, including their wives and unmarried daughters. It is unique to Hindu law and allows families to pool assets and income for tax purposes. HUFs can own property, run businesses, and file income tax returns separately from individual members. The head of the HUF, called the Karta, manages the family affairs. HUF status offers tax benefits through income splitting but is subject to complex inheritance and succession rules under Hindu law.

Why in news?

Net non-corporate tax receipts, which include HUFs, declined marginally to Rs 3.45 trillion, reflecting changes in tax liabilities and refund patterns for such entities.

Hybrid Annuity Mode (HAM)

Hybrid Annuity Mode (HAM) is a public-private partnership model used in infrastructure

projects, especially highways in India. Under HAM, the government funds 40% of the project cost during construction, while the private player invests the remaining 60%. The government repays the private entity through annuities over a fixed period after project completion. This model reduces financial risks for developers compared to full toll-based models. HAM combines features of Engineering, Procurement, and Construction (EPC) and Build-Operate-Transfer (BOT) models. It encourages private investment while ensuring government control over toll collection and tariff regulation.

WHY IN NEWS?

The Paramakudi-Ramanathapuram highway project in Tamil Nadu will be developed using the Hybrid Annuity Mode, facilitating smoother funding and risk-sharing between government and private players.

Imperial Bank of India

The Imperial Bank of India was formed in 1921 by merging the three Presidency banks. It functioned as the largest commercial bank and performed some central banking functions before the Reserve Bank of India was established in 1935. It was nationalised in 1955 and renamed the State Bank of India under the State Bank of India Act. The Imperial Bank played a key role in financing agriculture, trade, and industry during British India and early independent India. It was initially managed by RBI before ownership transferred to the government in 2008.

WHY IN NEWS?

The Imperial Bank of India is cited as the predecessor to SBI, which marks 70 years since its formation as a nationalised bank in 1955.

India-Asean Free Trade Agreement

The India-Asean Free Trade Agreement (FTA) was signed in 2009 and came into effect in January 2010, creating a trade bloc between India and the 10-member Association of Southeast Asian Nations (ASEAN). It covers goods, services, and investment, aiming to reduce tariffs and enhance economic integration. Post-implementation, India's exports to ASEAN reached about $38-39 billion annually, while imports surged to $86 billion. By 2023, both sides agreed to review the agreement due to trade imbalances and issues like misuse of the pact. Negotiations for revisions have faced delays due to differing priorities.

WHY IN NEWS?

PM Modi's bilateral meeting with Malaysian PM Anwar Ibrahim focused on reviewing the India-Asean FTA, addressing stalled negotiations and trade barriers ahead of the planned 2025 review.

India-UK Free Trade Agreement (FTA)

The India-UK Free Trade Agreement, signed in 2025, aims to reduce tariffs and boost trade between the two countries. It halved tariffs on whisky and gin from 150% to 75%, with a planned reduction to 40% over ten years. The FTA covers both bottled-in-origin and bulk imports, affecting import costs and production strategies. It is expected to lower raw material costs for Indian whisky producers and increase access to premium UK spirits. The

agreement is seen as a strategic move to enhance value creation and consumer access to foreign liquors in India.

Why in news?

The FTA's tariff reductions on whisky and gin imports are expected to alter pricing, production, and market dynamics in India's alcoholic beverage sector.

Indian Customs Electronic Data Interchange Gateway (ICEGATE)

The **Indian Customs Electronic Data Interchange Gateway (ICEGATE)** is the Indian Customs' official electronic platform for transmitting customs-related data. It automates the flow of shipping bills and other customs documentation to various government and regulatory agencies. ICEGATE supports electronic filing of customs declarations, duty payments, and shipping bill submissions, reducing manual paperwork and processing time. It has been operational since the early 2000s and integrates with systems like EDPMS for export monitoring. ICEGATE also enables real-time tracking of shipments and customs clearances, enhancing transparency and efficiency in India's trade logistics.

Why in news?

ICEGATE data forms a key part of the export information flow into EDPMS, which is undergoing procedural simplifications by RBI to ease export compliance for small-value transactions.

Insolvency and Bankruptcy Code (IBC)

The **Insolvency and Bankruptcy Code (IBC)** was enacted in India in 2016 to consolidate and amend laws relating to reorganization and insolvency resolution of corporate persons, partnership firms, and individuals. It introduced a time-bound process for insolvency resolution, typically within 180 days, extendable by 90 days. The IBC replaced earlier fragmented laws, creating a unified framework. It established the National Company Law Tribunal (NCLT) as the adjudicating authority for corporate insolvency. The code shifted control from debtors to creditors during resolution, improving recovery rates and reducing non-performing assets (NPAs) in the banking sector.

Why in news?

IBC's impact is brought into light as it resolved approximately ₹26 trillion in debt through formal cases and influenced settlements worth ₹14 trillion outside court, reflecting its growing role in India's financial system.

Inverted Duty Structure

An **inverted duty structure** occurs when the tax rate on inputs is higher than that on finished goods, causing cascading tax effects and hurting manufacturers. It leads to higher production costs and disrupts the input credit mechanism under GST. The GST Council has repeatedly attempted to correct this by adjusting rates on raw materials and finished products in sectors like textiles and footwear. Correcting inverted duty structures aims to reduce classification disputes and improve compliance. The issue has been a key factor in discussions on GST rate rationalisation since the Council's 45th meeting in 2021.

Why in news?

The GST Council continues to address inverted duty structure problems as part of the

ongoing debate on rationalising GST slabs, especially with proposals affecting multiple items in the 12% slab.

Jute Industry in West Bengal

West Bengal accounts for about **78% of India's jute production**, making it the country's primary jute-growing state. The jute industry supports over **400,000 direct workers** and multiple lakh farm families, providing livelihoods in rural areas. Jute cultivation also occurs in Bihar, Assam, Odisha, Andhra Pradesh, Tripura, and Meghalaya. The industry includes organized mills and allied sectors, contributing to the rural economy. Despite domestic consumption of nearly 90% of the output, the sector faces challenges from subsidized imports. Jute mills in West Bengal have experienced closures due to financial stress caused by dumping and underpriced imports from Bangladesh.

Why in news?

The Government of India's import restrictions aim to protect West Bengal's jute industry from subsidized Bangladeshi imports and ensure farmer and mill viability.

Kaladan Multimodal Transit Transport Project

The **Kaladan Multimodal Transit Transport Project** is a bilateral initiative between India and Myanmar aimed at connecting the Indian eastern seaport of Kolkata with the Northeastern state of Mizoram via Myanmar. It involves the development of Sittwe port in Myanmar, a river transport route on the Kaladan River, and a road network to Aizawl. The project reduces the distance between Kolkata and Aizawl by approximately **700 km**. It integrates waterway, road, and port infrastructure to facilitate cargo movement and enhance regional connectivity, promoting economic growth in Northeast India and Southeast Asia.

Why in news?

Union Minister Sarbananda Sonowal announced the Kaladan project will be fully operational by 2027, improving connectivity and trade routes between Northeast India and the rest of the country via Myanmar.

Kandla SEZ

The **Kandla Special Economic Zone (Kandla SEZ)** is one of the earliest SEZs established in India, located in the Kutch district of Gujarat. It was created to promote export-oriented industrialization by providing tax incentives, simplified customs procedures, and infrastructure. The zone primarily facilitates the import and export of goods with minimal regulatory interference. Kandla SEZ has a strategic location near the Kandla Port, one of India's major ports. It hosts industries ranging from chemicals to textiles. The SEZ has been used at times for illicit trade due to its relaxed customs environment, which requires strict monitoring by authorities.

Why in news?

Kandla SEZ was involved in the illicit import of Chinese fireworks misdeclared as plants and plastic mats, seized by the DRI during 'Operation Fire Trail.'

Kisan Vikas Patra

Kisan Vikas Patra (KVP) is a small savings instrument launched in India in 1988 to encourage long-term savings. It doubles the invested amount in 115 months (9 years and 7 months) at the current interest rates. KVP certificates can be bought and encashed at post offices and authorized banks. The scheme does not allow premature withdrawal except under specific circumstances such as the death of the holder or court orders. It is exempt from wealth tax but not from income tax. KVP is transferable from one post office to another, and the minimum investment amount is ₹1,000.

Why in news?

The Kisan Vikas Patra interest rate remains at 7.5% for July-September 2025, as per the latest small savings schemes notification.

Liquidity Adjustment Facility Corridor

The **Liquidity Adjustment Facility (LAF) corridor** is the interest rate band set by the RBI to guide short-term money market rates. It is defined by the MSF rate as the upper limit and the Standing Deposit Facility (SDF) rate as the lower limit, both typically 25 basis points above and below the policy repo rate, respectively. The corridor helps maintain market interest rates close to the policy repo rate, ensuring effective transmission of monetary policy. The LAF corridor structure was introduced to provide a controlled range for overnight rates, reducing volatility in the banking system's liquidity management.

Why in news?

Recently, the overnight money market rates fluctuated within the LAF corridor, influencing RBI's decision to conduct VRR auctions to manage liquidity and maintain rates near the policy repo rate.

Marginal Standing Facility (MSF)

The **Marginal Standing Facility (MSF)** is a window for banks to borrow overnight funds from the RBI against approved government securities, typically at a rate 25 basis points above the policy repo rate. It serves as a safety valve for banks facing acute liquidity shortages and acts as the upper bound of the Liquidity Adjustment Facility (LAF) corridor. Introduced in 2011, MSF replaced the earlier overnight borrowing facility and helps maintain stability in short-term interest rates. Banks can borrow under MSF up to 1% of their net demand and time liabilities (NDTL). The MSF rate signals the RBI's monetary policy stance.

Why in news?

The overnight money market rates had risen beyond the MSF rate in July 2025, prompting the RBI to conduct variable rate repo (VRR) auctions to bring rates down and stabilize liquidity.

Micro, Small, and Medium Enterprises (MSMEs) in India

India's **Micro, Small, and Medium Enterprises (MSMEs)** sector comprises over 63 million units, contributing approximately 30% to India's GDP and 45% to exports. MSMEs provide employment to around 120 million people, making them crucial for inclusive growth. The

government promotes MSMEs through schemes like the Credit Guarantee Fund Trust and Technology Upgradation Fund. MSMEs face challenges such as access to finance, technology, and market linkages. Recent policy emphasis encourages innovation, quality improvement, and scaling up to compete globally. MSMEs are vital for implementing trade agreements like TEPA by leveraging export opportunities and addressing non-tariff barriers.

WHY IN NEWS?

Union Minister Piyush Goyal emphasized the MSME sector's role in India's growth and urged stakeholders to address challenges and support the country's trade ambitions under the new India-EFTA agreement.

Mineral Oils

Mineral oils are hydrocarbons derived from refining crude petroleum. They include products like lubricating oils, paraffin, and kerosene. Used extensively in industrial and domestic applications, mineral oils serve as lubricants, fuel, and raw materials for chemical synthesis. Their prices are influenced by global crude oil markets and refining capacity. Mineral oils differ from vegetable oils and synthetic oils in origin and chemical composition. They have a wide range of viscosities and purity grades, tailored for specific uses. Environmental regulations increasingly affect mineral oil production and disposal due to pollution concerns.

WHY IN NEWS?

Mineral oils contributed to the decline in wholesale price inflation in June 2025 due to falling prices in crude petroleum and related products.

Mule Accounts

Mule accounts are bank accounts used as conduits to transfer or launder money obtained through fraudulent activities. They are often opened or controlled by third parties who facilitate illegal transactions unknowingly or deliberately. In India, such accounts have been increasingly linked to cyber fraud and money laundering, especially involving inoperative accounts under schemes like PMJDY. The Reserve Bank of India's **"Mule Hunter"** initiative uses artificial intelligence and machine learning to detect and trace these accounts. Over ₹147 crore was reportedly affected through mule accounts at Bank of India in six months.

WHY IN NEWS?

Mule accounts under PMJDY are being targeted for closure as they are exploited in rising cyber fraud cases, prompting enhanced regulatory scrutiny and technological intervention.

National Payments Corporation of India (NPCI)

NPCI is an umbrella organization for operating retail payments and settlement systems in India, founded in 2008. It developed flagship products like Unified Payments Interface (UPI), Immediate Payment Service (IMPS), and RuPay card network. NPCI supports interoperable, scalable, and secure digital payment infrastructure nationwide. It is jointly

owned by major banks and regulated by the Reserve Bank of India. NPCI also collaborates with UIDAI to provide digital identity verification solutions like the e-KYC Setu System. Its initiatives have contributed to India's digital financial inclusion and cashless economy.

Why in news?

NPCI's e-KYC Setu System was approved by Sebi for use by registered intermediaries to facilitate digital KYC in securities markets.

National Pension System (NPS)

The **National Pension System (NPS)** is a voluntary, defined contribution retirement savings scheme launched by the Government of India in 2004. It covers government employees and the general public, offering market-linked returns through pension fund managers. Subscribers contribute regularly, and at retirement, they receive a lump sum and an annuity. NPS is regulated by the Pension Fund Regulatory and Development Authority (PFRDA). It allows portability across jobs and sectors. The Unified Pension Scheme (UPS) is a new option within NPS providing assured payouts, contrasting with NPS's investment-linked returns, aimed at central government employees for pension security.

Why in news?

UPS is introduced as an option under NPS for central government employees, leading to discussions on pension reforms and employee uptake rates as of mid-2025.

Permanent Account Number (PAN)

The **Permanent Account Number (PAN)** was introduced in India in 1972 as a unique identifier for taxpayers. The current PAN format, implemented in 1995, consists of a 10-character alphanumeric code that facilitates tracking of financial transactions and tax compliance. Managed by the Income Tax Department, PAN is mandatory for filing income tax returns, opening bank accounts, and conducting high-value financial transactions. It helps prevent tax evasion by linking all financial activities to a single identity. PAN cards are also used as valid proof of identity across India. The system is integrated with various government databases for seamless information flow.

Why in news?

PAN's evolution and current format were brought into light as part of India's digital transformation in tax administration, contributing to improved compliance and tracking in the 2025 Income Tax Day commemoration.

Prompt Corrective Action (PCA)

Prompt Corrective Action is a supervisory framework used by the RBI to monitor banks showing signs of financial stress. PCA imposes restrictions on banks with weak capital, high NPAs, or poor profitability to protect depositors and maintain stability. It can limit dividend payouts, branch expansions, and management compensation. The framework aims to prompt early intervention before banks deteriorate further. Banks under PCA must submit recovery plans and comply with stricter regulatory oversight. PCA status is reviewed annually and can be lifted if the bank improves its financial health.

Why in news?

The ECBA framework requires banks not to be under PCA during the current or previous financial year to qualify for new branch and infrastructure permissions.

Purchasing Power Parity (PPP) in Diet Cost

Purchasing Power Parity (PPP) is an economic metric used to compare the relative cost of goods and services between countries, accounting for differences in price levels and living standards. PPP adjusts monetary values to reflect the amount of local currency needed to buy the same basket of goods in different countries. In nutrition, PPP is used to estimate the cost of a healthy diet globally, averaging $4.46 PPP per person per day in 2024. PPP allows for more accurate comparisons of diet affordability across regions with varying income and price structures.

Why in news?

The SOFI 2025 report uses PPP to show disparities in healthy diet costs worldwide, showing regional differences and the rising economic barriers to nutritious food.

Qualified Institutional Placement (QIP)

A **Qualified Institutional Placement (QIP)** is a capital-raising tool used by listed companies in India to issue equity shares, fully and partly convertible debentures, or any securities other than warrants to qualified institutional buyers. Introduced by SEBI in 2006, QIPs allow faster and less cumbersome fundraising compared to public issues or rights issues. They help companies raise funds without undergoing extensive regulatory approvals. The investors are typically mutual funds, foreign institutional investors, and insurance companies. The pricing of QIPs is regulated to prevent dilution of existing shareholders. QIPs are considered a cost-effective and efficient mechanism for capital infusion.

Why in news?

SBI launched the largest-ever QIP by an Indian firm, aiming to raise Rs 25,000 crore to support growth and improve its capital adequacy ratio.

Rare-Earth Elements

Rare-earth elements (REEs) are a group of 17 chemically similar metallic elements crucial for modern technologies such as smartphones, electric vehicles, and military equipment. Despite their name, these elements are relatively abundant but difficult to extract economically. China controls over 60% of global rare-earth production and processing capacity, giving it leverage in global supply chains. REEs include elements like neodymium, dysprosium, and terbium. Their extraction and processing involve complex environmental challenges due to toxic byproducts. Countries worldwide are seeking to diversify supply chains to reduce dependence on China.

Why in news?

The Brics summit discussions included securing supply chains for critical minerals, with PM Modi stressing cooperation among member countries to reduce reliance on China's dominant role in rare-earth elements.

Sagarmala Programme

The **Sagarmala Programme** is an Government of India initiative launched in 2015 to modernize ports and enhance port connectivity with railways, roadways, and inland waterways. It aims to reduce logistics costs and boost exports by developing world-class port infrastructure and efficient cargo movement. The programme includes port modernization, new port development, port-led industrialization, and coastal community development. It emphasizes synchronizing multiple ministries and agencies for seamless operations. As of 2025, Sagarmala has improved India's maritime logistics and port connectivity, contributing to economic growth and global trade competitiveness.

Why in news?

Union Minister Sarbananda Sonowal brought into light the Sagarmala Programme's role in improving port connectivity and operations during the passage of the Bills of Lading Bill, 2025.

Shankar Acharya

Shankar Acharya served as the Chief Economic Advisor to the Government of India from 1993 to 2001, making him the longest-serving individual in this role. He played role in shaping India's economic reforms during the 1990s, including liberalization policies. Acharya is known for his expertise in macroeconomic policy, fiscal reforms, and public finance. Post his government tenure, he has been involved in academic research and policy advisory roles. He is also recognized for his contributions to economic literature and has been honored through a festschrift titled "A World in Flux – India's Economic Priorities."

Why in news?

A book launch event honored Shankar Acharya's contributions to Indian economic policy, with Finance Minister Sitharaman speaking at the occasion.

Tourism Value Chain

The **tourism value chain** encompasses all stages and sectors involved in delivering a tourist experience, from infrastructure development, transportation, accommodation, and attractions to marketing, sustainability practices, and service operations. Strengthening this chain improves overall tourist satisfaction and economic benefits. It includes both public and private sector roles, ensuring connectivity, environmental management, and cultural preservation. Effective management of the value chain supports sustainable tourism growth and competitiveness on a global scale, addressing challenges like carrying capacity and ecological impact.

Why in news?

The SASCI scheme targets strengthening the entire tourism value chain to enhance the end-to-end tourist experience at selected iconic sites.

Tri-Party Repo Rate

The **Tri-Party Repo Rate** is the interest rate on overnight or short-term borrowing transactions involving securities, where a third-party custodian facilitates settlement

between borrowers and lenders. Unlike traditional bilateral repos, tri-party repos reduce counterparty risk and operational complexities by using a custodian bank to manage collateral and settlement. This mechanism enhances market efficiency and liquidity in the secured overnight funding market. The tri-party repo market is in India's money market, influencing short-term interest rates and liquidity management. Rates can fluctuate independently from other overnight rates due to collateral quality and demand-supply factors.

WHY IN NEWS?

The tri-party repo rate moved to 5.25% after RBI's liquidity absorption through VRRR auction, reflecting short-term secured borrowing costs in the banking system.

Variable Rate Reverse Repo (VRRR)

The **Variable Rate Reverse Repo (VRRR)** is a monetary policy tool used by the Reserve Bank of India to absorb liquidity from the banking system. It involves banks lending funds to the RBI for short durations at variable interest rates determined through auctions. VRRR auctions help manage short-term liquidity without affecting long-term monetary conditions. Banks prefer shorter-tenure VRRRs to maintain flexibility in cash management. The RBI uses VRRR especially when other tools like Cash Reserve Ratio adjustments are limited. VRRR helps control overnight interest rates and supports smoother monetary transmission in response to policy rate changes.

WHY IN NEWS?

RBI is expected to continue using shorter-tenure VRRR auctions to manage liquidity following a 100 bps repo rate cut and reduced CRR, avoiding long-term liquidity absorption amid fluctuating cash needs.

World Economic Outlook

The **World Economic Outlook (WEO)** is a flagship report published biannually by the International Monetary Fund (IMF). It provides analysis and projections of the global economy, including GDP growth, inflation, and trade trends. The WEO uses data from member countries and economic models to forecast short- and medium-term economic developments. It influences policy decisions worldwide and is closely watched by governments, investors, and analysts. The April and October editions are the most detailed, often revised during the year to reflect changing global conditions. The WEO also marks risks such as geopolitical tensions and financial market volatility that could affect growth.

WHY IN NEWS?

The IMF revised its India growth forecast in the July 2025 update of the World Economic Outlook, raising the 2025 and 2026 GDP projections due to a more favorable external environment than expected earlier in April 2025.

World Food India

World Food India is a global food processing business summit initiated by the Government of India to promote investment and innovation in the food processing sector.

The event is held every few years, with the 4th edition scheduled for 2025 at Bharat Mandapam, New Delhi. It aims to connect stakeholders including farmers, entrepreneurs, investors, and policymakers. The summit focuses on showcasing India's food processing potential, enhancing farmer incomes, creating jobs, and increasing exports. Themes often revolve around innovation, sustainability, and technology adoption. The event features exhibitions, B2B meetings, and policy dialogues to encourage sector growth.

Why in news?

The 4th edition of World Food India 2025 is scheduled from 25th September at Bharat Mandapam, New Delhi, focusing on "Processing for Prosperity" to boost the food processing industry in India.

Geography (Indian & Physical)

Andaman Trunk Road (ATR)

The ATR is a major highway running through the Andaman Islands connecting South, Middle, and North Andaman. It serves as a lifeline for several lakhs of island residents by facilitating transport and communication. However, the ATR passes through tribal areas, notably near the Jarawa settlements, increasing contact and potential intrusion into their habitat. Regulating traffic on the ATR is considered essential to balance local population convenience and protect the Jarawas from external influence. The ATR's impact on indigenous tribes has been a subject of ongoing debate regarding conservation and development.

Why in news?

The ATR's role in tribal access and intrusion is discussed in the context of preserving indigenous tribes' survival while accommodating regional development ahead of the census.

Andaman-Sumatra Fault Line

The **Andaman-Sumatra fault line** is a major subduction zone where the Indian Plate dives beneath the Burmese Microplate along the Andaman Trench. It is capable of generating massive earthquakes and tsunamis. The fault line is segmented, with some segments having unknown rupture histories. Parallel rupture lines exist south of the Andamans towards Nicobar, increasing seismic complexity. This fault line was responsible for the 2004 Indian Ocean earthquake (magnitude 9.2) and subsequent tsunami. The region is highly geo-dynamic, with local fault lines and land level changes influencing earthquake recurrence and intensity.

Why in news?

The fault line's seismic risk is central to concerns about the Great Nicobar Infrastructure Project's vulnerability to earthquakes and tsunamis.

Ashta Lakshmi (Eight States)

"Ashta Lakshmi" refers to the eight northeastern states of India – Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, and Tripura. The term draws from Hindu mythology where Ashta Lakshmi are eight forms of wealth and prosperity.

This metaphor is used by the Prime Minister to symbolize the region's potential as a source of diverse wealth including natural resources, culture, and biodiversity. The eight states collectively cover about 8% of India's land area and are home to over 45 million people. The region is strategically important for India's Act East Policy and has unique socio-cultural and ecological characteristics.

Why in news?

The CEO of NITI Aayog referenced the "Ashta Lakshmi" of eight states to emphasize the importance of the northeastern region's growth and development in the 2023-24 SDG Index launch.

Atacama Desert Snowfall

The **Atacama Desert** is the driest non-polar desert on Earth, with some weather stations recording no rainfall for decades. Snowfall in this desert is extremely rare due to its hyper-arid climate and high altitude. Snow events have been documented only sporadically, often linked to unusual cold air incursions from polar or high-altitude systems. The desert's unique geography and atmospheric conditions usually prevent precipitation. When snow falls, it can temporarily alter local ecosystems adapted to extreme dryness. The 2025 snowfall was the first in over ten years, denoting an exceptional meteorological event.

Why in news?

Snow blanketed parts of the Atacama Desert for the first time in over a decade during the June 2025 cold snap, marking a rare climatic anomaly.

Baitarani River

The **Baitarani River** is one of the major rivers in Odisha, originating from the Guptaganga hills of the Keonjhar district. It flows through Odisha and empties into the Bay of Bengal. The river is approximately **360 kilometers long** and supports agriculture and fishing in the region. The Baitarani basin covers an area of about **14,000 square kilometers**. It has several tributaries, including the Kusei and Salandi. The river is prone to seasonal flooding, especially during the monsoon months, which impacts local communities and agriculture. Several anicuts and barrages regulate its flow.

Why in news?

The Baitarani River surged beyond the danger mark in July 2025, causing floods and inundation in Bhadrak district, Odisha, leading to displacement and disruption of services.

Char Dham

The **Char Dham** refers to four sacred Hindu pilgrimage sites in Uttarakhand – Badrinath, Kedarnath, Gangotri, and Yamunotri. These sites are situated in the Himalayas and are visited by thousands annually. The pilgrimage is considered essential for spiritual purification and liberation. The Char Dham circuit is traditionally accessible only during summer months due to harsh winters. The Government of India has initiated the **Char Dham all-weather road project** to enable year-round access, aiming to boost tourism and local economies. The pilgrimage has deep mythological significance linked to Lord

Vishnu and Lord Shiva.

Why in news?

The Char Dham all-weather road project was brought into light during the Uttarakhand Investment Festival 2025 as a key infrastructure initiative to promote tourism and year-round pilgrimage access.

Dhanushkodi

Dhanushkodi is a ghost town situated at the southeastern tip of Pamban Island, Tamil Nadu. It was destroyed by a cyclone in 1964 and remains largely uninhabited. The town is a pilgrimage site associated with the Ramayana, believed to be the place where Lord Rama's army crossed to Lanka. Dhanushkodi is known for its ruins, beaches, and religious significance. It is part of the Madurai-Dhanushkodi corridor and has potential for tourism development. The area is ecologically sensitive with unique coastal and marine biodiversity.

Why in news?

The highway upgrade will improve access to Dhanushkodi, boosting tourism and economic opportunities in this historically and religiously region.

Gangetic Delta

The Gangetic delta, also known as the Ganges-Brahmaputra delta, is the world's largest river delta, formed by the confluence of the Ganga, Brahmaputra, and Meghna rivers. It spans parts of India and Bangladesh and is highly fertile but naturally flood-prone due to its low elevation and heavy monsoon rains. The delta supports over 150 million people living in dense urban and rural settlements, including a large number of informal slum dwellers. The region faces frequent flooding, exacerbated by climate change, sea-level rise, and human activities like deforestation and land reclamation. It is a critical zone for agriculture, biodiversity, and human habitation in South Asia.

Why in news?

The study identifies the Gangetic delta as the largest concentration area of slum dwellers living in floodplains, denoting its vulnerability to flooding and the socio-economic risks faced by its population.

Harang Bridge

The **Harang bridge** is located on the Silchar–Kalain route in Assam and is important infrastructure element for road connectivity in the Barak Valley. Despite spending **Rs 137 crore on repairs**, the bridge recently collapsed, denoting the poor state of road infrastructure. The bridge's failure disrupts the national highways NH-6, NH-27, and NH-37, affecting transportation and logistics. The bridge is prone to damage due to frequent landslides and inadequate maintenance. It plays role in connecting key towns and facilitating economic and social activities in the region.

Why in news?

The recent collapse of Harang bridge has exacerbated the isolation of Barak Valley, intensifying calls for improved infrastructure and sustainable maintenance solutions.

Kabini River

The Kabini River is a tributary of the Cauvery River, flowing through Karnataka and Kerala in southern India. It originates from the Wayanad district in Kerala and travels about 120 kilometers before joining the Cauvery. The river supports extensive irrigation, serving over 1.13 lakh acres of farmland, and sustains diverse wildlife, including the Kabini Wildlife Sanctuary. The Kabini dam, constructed 51 years ago, is a key water management structure for the region, facilitating irrigation and hydroelectric power. The river's basin is ecologically , housing rich biodiversity and supporting local agriculture and tourism.

Why in news?

The Kabini River's dam is undergoing renovation with ₹32.25 crore sanctioned, aiming to strengthen irrigation infrastructure and support agriculture in the region.

Karewa Sediments

The **Karewa sediments** are lacustrine deposits found primarily in the Kashmir Valley, formed during the Pliocene to Pleistocene epochs. These sediments are rich in fossilized plant remains, especially leaves, which provide valuable information about past climates and environments. Karewa deposits are typically composed of clays, silts, and sands, often interbedded with volcanic ash layers. Their excellent preservation conditions have made them a key site for paleobotanical and paleoenvironmental studies. The sediments also hold archaeological significance, containing artifacts from early human settlements. Their stratigraphy helps reconstruct tectonic and climatic changes in the northwestern Himalayas over millions of years.

Why in news?

Karewa sediments yielded fossilized leaves that revealed Kashmir Valley's ancient subtropical climate, aiding a study on tectonic uplift's impact on climate shifts.

Lakshadweep

Lakshadweep is a group of 36 small coral islands in the Arabian Sea, off the southwestern coast of India. It is the smallest Union Territory of India by area and population. The islands are known for their unique marine biodiversity and pristine coral reefs. The economy relies heavily on fishing, coconut cultivation, and tourism. Lakshadweep has a predominantly Muslim population and distinct cultural practices, including traditional boat building. The territory is governed directly by the Central Government through an Administrator. It has no permanent rivers or lakes, relying on groundwater and rainwater harvesting.

Why in news?

Lakshadweep was among the regions showing strong pockets of GST growth in June 2025, denoting economic resilience in remote areas.

Lumding–Badarpur Railway Section

The **Lumding–Badarpur railway section** is a critical rail link in Assam passing through the **fragile hills of Dima Hasao**. It has experienced at least **seven major breakdowns in the last five years** due to landslides, embankment failures, and weak infrastructure. This

section is notorious for chronic disruptions, often suspending rail services for weeks. The terrain's susceptibility to natural disasters makes maintenance challenging. The line is vital for connecting the Barak Valley with the rest of Assam and Northeast India, supporting both passenger and freight transport.

Why in news?

Repeated breakdowns on this railway section have worsened the connectivity crisis in Barak Valley, severely impacting residents and economic activities, prompting urgent appeals for government intervention.

Male Mahadeshwara Hills

The Male Mahadeshwara Hills are a range of hills located in the Chamarajanagar district of Karnataka. Named after the Hindu deity Lord Mahadeshwara, these hills are a prominent pilgrimage site, attracting devotees year-round. The region is known for its dense forests, rich biodiversity, and tribal communities. It is also part of the Eastern Ghats and serves as an ecological buffer zone. The hills have cultural significance, with annual festivals and rituals honoring Lord Mahadeshwara, blending religious devotion with local traditions. The area is also gaining attention for eco-tourism and development projects.

Why in news?

A recent cabinet meeting held at Male Mahadeshwara Hills approved projects worth ₹35 crore for regional development, including irrigation and tourism initiatives.

Mamallapuram

Mamallapuram, also known as Mahabalipuram, is a UNESCO World Heritage Site located on the Coromandel Coast of Tamil Nadu. It is renowned for its 7th-8th century Pallava dynasty rock-cut temples and monolithic rathas (chariots). The site includes the famous Shore Temple, sculpted cave temples, and the giant open-air bas-relief known as Arjuna's Penance. Mamallapuram was an important seaport and cultural center during the Pallava period, facilitating maritime trade and cultural exchange with Southeast Asia. It continues to be a major heritage tourism destination, attracting scholars and tourists interested in South Indian temple architecture and ancient maritime history.

Why in news?

Mamallapuram is the venue for sessions on heritage-led cruise tourism during the ASEAN-India Cruise Dialogue 2025, denoting its role in promoting cultural and coastal tourism as part of India-ASEAN maritime cooperation.

Nagaland

Nagaland is a state in Northeast India, bordered by Myanmar to the east. It is home to **16 major tribes**, each with distinct customs and languages. The state capital is Kohima. Nagaland has a unique customary law system that operates alongside Indian law. It is known for the annual **Hornbill Festival**, showcasing tribal culture and heritage. The economy is primarily agrarian, with cultivation of rice and horticulture. Nagaland has rich biodiversity, including rare orchids. It became the 16th state of India on **December 1, 1963**. The state has been a focus for peace talks related to insurgency movements.

Why in news?

Nagaland showed strong growth in GST collections in June 2025, indicating improving economic activity despite broader national slowdowns.

Pir Panjal Range

The **Pir Panjal Range** is a sub-Himalayan mountain range located southwest of the Kashmir Valley, extending about 300 kilometers. It forms the largest range of the Lesser Himalayas and acts as a climatic barrier, influencing local weather patterns. The range's uplift, beginning around 4 million years ago, altered regional climate by blocking monsoon moisture from entering Kashmir Valley, leading to a shift from subtropical to Mediterranean conditions. The Pir Panjal Range contains important passes like Banihal and Mughal Road, historically facilitating trade and migration. It also hosts diverse flora and fauna, some endemic to the Western Himalayas.

Why in news?

The tectonic uplift of the Pir Panjal Range blocked monsoon rains, causing the Kashmir Valley's climate to shift from subtropical to Mediterranean, as revealed by recent fossil studies.

Sabarmati River

The **Sabarmati River** originates from the Aravalli Hills in Rajasthan and flows through Gujarat into the Arabian Sea. It is approximately 371 km long and plays cultural and historical role in Gujarat, especially in Ahmedabad. The river's basin supports agriculture, industry, and urban settlements. The Sabarmati Riverfront project in Ahmedabad is a notable urban development initiative aimed at revitalizing the riverbanks for public use, tourism, and flood control. The river's navigability is limited, but recent efforts seek to enhance its potential for inland water transport and tourism.

Why in news?

The Sabarmati River is mentioned as a navigable waterway supporting Gujarat's plans to expand cruise tourism under the Cruise Bharat Mission.

Sagar Island

Sagar Island is the largest landmass in the Sunderbans deltaic complex, located in the Bay of Bengal. It is part of the Sundarbans, a UNESCO World Heritage Site known for its unique mangrove forests and rich biodiversity. The island experiences tidal influences and is a critical habitat for various species, including endangered wildlife. It also has cultural significance due to the annual Gangasagar Mela, a large Hindu pilgrimage event. Sagar Island's ecological and cultural importance makes it a focus for conservation and scientific research.

Why in news?

Sagar Island is the location where researchers discovered the new spider species Piratula acuminata, denoting the island's biodiversity.

Shi Yomi District

Shi Yomi is a newly formed district in Arunachal Pradesh, created in 2018. It is located in the northeastern part of the state and is known for its remote and hilly terrain. The district

is inhabited mainly by the Adi and Memba tribes. It has limited infrastructure and accessibility challenges due to its terrain and weather conditions. Shi Yomi is notable for its biodiversity and cultural heritage. It is among the low-performing districts in school education according to the 2025 PARAKH RS survey, indicating educational development challenges in the region.

WHY IN NEWS?

Shi Yomi was identified as one of the lowest performing districts in Grade 9 education in the 2025 PARAKH RS assessment.

Srinagar-Kargil-Leh National Highway

The **Srinagar-Kargil-Leh National Highway** is a vital road network connecting the Kashmir Valley to Ladakh, traversing through Kargil and Dras. It is strategically important for both civilian travel and military logistics, especially given the region's proximity to international borders. The highway experiences heavy snowfall and landslides, often becoming inaccessible in winter, which the Zojila Tunnel aims to mitigate by providing year-round connectivity. The highway plays a key role in economic development and regional integration of Ladakh with the rest of India. It is also a critical supply route for defense forces stationed in the area.

WHY IN NEWS?

The highway's connectivity challenges are being addressed by the construction of the Zojila Tunnel, which will ensure all-weather access and enhance mobility on this strategic route.

Tiau River

The **Tiau River** forms a natural border between Myanmar and India's Mizoram state. It is a tributary of the Kaladan River and plays important role in cross-border movement and trade. The river is approximately 159 kilometers long and flows through hilly terrain, making the border region difficult to patrol. Indigenous communities like the Chin and Mizo use the river and its surrounding areas for daily activities and maintaining familial ties across borders. The river's strategic significance has increased amid political unrest in Myanmar, as refugees frequently cross it to seek safety in India.

WHY IN NEWS?

Nearly 4,000 Chin refugees crossed the Tiau River to enter Mizoram following ethnic armed conflict in Myanmar's Chin State.

Zero Point (Shipki-La)

Zero Point at Shipki-La refers to the exact location on the India-China border where visitors can directly view Chinese territory. It is a highly sensitive area under strict supervision by Indian security forces, with tourists allowed only **15 to 20 minutes** at this spot. Photography and movement are tightly controlled to avoid any security breaches. The Zero Point marks the closest civilian-accessible vantage point to the LAC in this region. The Chinese side also closely monitors this area, making it a potential flashpoint requiring careful management.

Why in news?

Zero Point is the main attraction in the newly opened Shipki-La border tourism, where visitors can glimpse Chinese soil under tight security, denoting the delicate nature of India-China border relations.

Zojila Tunnel

The **Zojila Tunnel** is an under-construction road tunnel in the Himalayas, located at an altitude of **11,578 feet**. It will be **India's longest road tunnel** and **Asia's longest bi-directional tunnel**, spanning over **30 kilometers**. The tunnel connects Srinagar and Leh via Dras and Kargil, providing **all-weather connectivity** on the Srinagar-Kargil-Leh National Highway. It is designed to improve both civilian and military mobility in the strategically important region. The project is expected to be completed by **2027** and is built in challenging Himalayan terrain, requiring advanced engineering techniques to ensure safety and durability.

Why in news?

The Zojila Tunnel is brought into light due to its strategic importance and the steel supply from SAIL, which is powering the construction of this critical infrastructure project.

Environment & Ecology

Aedes aegypti Mosquito

The **Aedes aegypti** mosquito is the primary vector for multiple arboviral diseases including dengue, chikungunya, Zika, and yellow fever. It thrives in tropical and subtropical urban environments, breeding mainly in artificial water containers. This mosquito is **day-biting**, with peak activity in early morning and late afternoon. It has a strong preference for human blood, which increases transmission rates. Unlike many mosquitoes, Aedes aegypti females lay eggs just above waterlines, allowing eggs to survive dry periods for months. Genetic studies show it originated in Africa and spread globally via human trade and travel.

Why in news?

Aedes aegypti is central to WHO's new integrated guidelines for managing arboviral diseases, as it transmits the four major viruses targeted by the protocols.

AI-Based Tiger Warning System

The AI-based tiger warning system installed in villages near TATR uses **artificial intelligence algorithms** to detect tiger movements in real-time. The system triggers **loudspeaker announcements** to warn villagers to stay indoors between 7 pm and 7 am. It is designed to reduce man-animal conflict by providing timely alerts. The system integrates sensors and cameras placed strategically along forest edges and paths. It is among the first of its kind in India to combine AI with community safety measures. This system complements existing patrols and response teams formed with local villagers and forest officials.

Why in news?

The AI-based system was launched to mitigate increasing tiger attacks that resulted in 23 deaths in Chandrapur district this year.

Arboreal Bridges

Arboreal bridges are wildlife crossing structures designed to connect fragmented forest habitats by providing canopy pathways for arboreal animals such as monkeys, squirrels, and reptiles. These bridges help reduce roadkill and maintain genetic diversity by facilitating safe animal movement across roads and highways. They are part of scientifically designed mitigation features recommended by the Zoological Survey of India to protect wildlife from infrastructure development impacts. Arboreal bridges complement underpasses, overpasses, and tunnels, enhancing habitat connectivity and ecosystem resilience. Their design varies depending on the target species and local ecology, often using natural vegetation or artificial ropes and platforms.

Why in news?

Arboreal bridges were emphasized in the ZSI 2024 report and Animal Taxonomy Summit 2025 recommendations as key conservation tools to minimize habitat fragmentation and wildlife mortality due to expanding infrastructure.

Artificial Intelligence Bird Identification

The use of **Artificial Intelligence (AI)** in bird identification during the Kaziranga census involved analyzing audio recordings of bird calls collected from the field. AI algorithms processed these sounds to accurately recognize species without visual confirmation, minimizing human disturbance to wildlife. This technique enhances the efficiency and accuracy of biodiversity surveys, especially in dense or inaccessible habitats. AI bird call recognition combines machine learning with ornithological databases and can differentiate between similar species by their unique acoustic signatures. This approach is increasingly adopted worldwide for ecological monitoring and conservation.

Why in news?

AI was instrumental in the Kaziranga grassland bird census, enabling researchers to identify over 40 bird species remotely, a key factor brought into light by PM Modi during his speech.

Artificial Reef Modules

The artificial reef modules deployed in the TNSHORE project are trapezoidal ferrocement and steel structures with perforations for nutrient flow. Each module weighs between **1.8 and 3 tonnes** and measures 2-3 meters in height. About **8,500** such modules will be installed strategically to reduce wave energy and promote sediment deposition around Kariyachalli Island. Designed with ocean current dynamics in mind, these reefs aim to stabilize the shoreline and mitigate erosion. The modules were developed collaboratively by scientists from IIT Madras and the Suganthi Devadason Marine Research Institute in Thoothukudi.

Why in news?

These artificial reefs are being deployed as part of the 2025 TNSHORE initiative to protect Kariyachalli Island from further erosion and to restore marine biodiversity in the Gulf of Mannar.

Aspergillosis

Aspergillosis is a respiratory illness caused by fungi of the genus **Aspergillus**, especially Aspergillus fumigatus. The fungi produce tiny airborne spores that can cause infection when inhaled in large amounts. It primarily affects people with weakened immune systems or preexisting lung conditions. Aspergillus molds are found ubiquitously in soil, decaying vegetation, dust, air-conditioning systems, and bird droppings. The spores thrive in damp, poorly ventilated environments. Inhalation of small quantities is common and harmless for healthy individuals. Aspergillosis is not directly caused by pigeons but rather by widespread environmental mold presence.

Why in news?

Aspergillosis has been linked controversially to urban pigeons, sparking public concern and debate about disease transmission and urban wildlife management.

Bagh Mitras

Bagh Mitras are community volunteers or forest department recruits in India who assist in tiger and leopard conservation by creating awareness and reducing human-wildlife conflicts. The term “bagh” means tiger in Hindi, and “mitra” means friend. These volunteers regularly visit villages near forest areas to educate locals on safety measures and coexistence strategies. They act as a bridge between forest authorities and local communities, reporting animal movements and incidents. Bagh Mitras are often trained in basic wildlife monitoring and conflict mitigation techniques. Their role has expanded with increasing wildlife populations in buffer zones.

Why in news?

Forty-six bagh mitras have been recruited and trained in the Dudhwa buffer zone to help mitigate rising leopard-human conflicts amid growing leopard numbers.

Baisipalli Wildlife Sanctuary

The **Baisipalli Wildlife Sanctuary** is situated within the Satkosia tiger reserve in Odisha and covers approximately **168.35 square kilometers**. It is known for its rich biodiversity, including species like elephants, leopards, and various birds. The sanctuary is characterized by mixed deciduous forests and riverine habitats, providing crucial habitat for wildlife. It is part of the Eastern Ghats landscape and plays a vital role in maintaining ecological connectivity in the region. The sanctuary also supports local tribal communities who depend on the forest for non-timber forest products.

Why in news?

The new bridge and road approach will pass through Baisipalli sanctuary, raising concerns about increased vehicular traffic and its impact on wildlife.

Baku-to-Belém Roadmap

The Baku-to-Belém roadmap is an international climate finance initiative aimed at enhancing transparency, accountability, and coordination among climate finance stakeholders. Named after Baku, Azerbaijan, and Belém, Brazil, the roadmap outlines steps to improve tracking of climate investments, mobilize private and public funds, and

align financial flows with global climate goals. It emphasizes developing bankable projects, catalytic capital use, and strengthening carbon markets. The roadmap supports the implementation of commitments under the UN Framework Convention on Climate Change (UNFCCC) and guides preparations for major climate summits such as COP30.

Why in news?

The roadmap is brought into light as a key mechanism for scaling up climate finance ahead of the 30th Conference of Parties (COP30) in Belém, Brazil, in 2025.

Bambusa tulda

Bambusa tulda is a fast-growing bamboo species native to South Asia, especially prevalent in India's northeast. It can reach heights of up to 20 meters and is known for its strong, straight culms. It is widely used in construction, paper production, and handicrafts. The species has a high tensile strength and flexibility, making it suitable for composite materials. Bambusa tulda thrives in tropical and subtropical climates and regenerates quickly after harvesting. Its rapid growth cycle allows sustainable harvesting every 3-5 years. The species has natural resistance to pests and diseases, reducing the need for chemical treatments.

Why in news?

Bambusa tulda is used as the primary natural fiber in a new eco-friendly composite developed by IIT Guwahati researchers to replace plastics in automotive interiors.

Bamunbari, Baksa District

Bamunbari is a village in Baksa district, Assam, located within the Bodoland Territorial Region. It is known for its rich biodiversity, particularly in tropical rainforest species. The area is a hotspot for botanical surveys, especially for the genus Garcinia. Bamunbari's forest ecosystem supports endemic and newly discovered species due to its unique climatic and soil conditions. The region is part of conservation efforts under Assam's environmental authorities and serves as a field site for botanical research and herbarium specimen collection. It also holds cultural significance for local communities dependent on forest resources.

Why in news?

The newly discovered Garcinia kusumae was found in Bamunbari during a botanical survey, denoting the ecological importance of this location in Assam's flora research.

Banakacherla Project

The **Banakacherla Project** aims to interlink the Godavari and Krishna river basins to divert 200 tmc ft of surplus Godavari floodwaters to drought-prone Rayalaseema in Andhra Pradesh. It involves enhancing the Polavaram Right Main Canal to 38,000 cusecs, constructing a 150 tmc ft Bollapalli reservoir, and using six lift irrigation stations to pump water through tunnels under the Nallamala forests to the Banakacherla reservoir. The project requires acquiring 40,500 acres, including forest land, and demands over 4,000 MW of power. It is estimated to cost ₹80,112 crore and is a key water resource development initiative by Andhra Pradesh.

Why in news?

The Banakacherla Project is in the spotlight due to Andhra Pradesh pushing for its construction while Telangana opposes it, citing violations of the AP Reorganisation Act, 2014, and environmental concerns.

Begonia nyishiorum

Begonia nyishiorum is a newly discovered flowering plant species endemic to Arunachal Pradesh's East Kameng district, found at elevations between 1,500 and 3,000 meters. It is distinguished by **dense crimson, fringed scales on its light green petioles**, a unique indumentum not seen in any other Asian begonia. The species is currently known from only two forest sites and adds to over 2,150 accepted begonias worldwide. Its name honors the Nyishi community, recognizing their role in protecting these forests. The discovery marks the region's rich biodiversity and ongoing speciation in the Eastern Himalayas.

Why in news?

Begonia nyishiorum was recently discovered during a forest expedition in East Kameng district and formally published in the journal Novon in June 2025, marking botanical addition to Arunachal Pradesh's flora.

Bhitarkanika National Park

Bhitarkanika National Park, located in Odisha, spans approximately **145 square kilometers** and is known for its dense mangrove forests. It hosts one of the largest populations of saltwater crocodiles in India. The park is also a designated Ramsar Wetland, denoting its importance for migratory birds and biodiversity. It contains the Bhitarkanika Wildlife Sanctuary and Bhitarkanika Mangroves, providing critical habitat for endangered species like the Olive Ridley turtle. The park plays important role in flood control and carbon sequestration due to its extensive mangrove ecosystem.

Why in news?

A 6.3-feet-long female saltwater crocodile was rescued from a village pond near Bhitarkanika National Park, denoting the park's growing crocodile population and human-wildlife interaction issues.

Big Four Snakes of India

The **Big Four** snakes of India are the Indian cobra (Naja naja), common krait (Bungarus caeruleus), saw-scaled viper (Echis carinatus), and Russel's viper (Daboia russelii). They account for the majority of snakebite fatalities nationwide. The common krait is neurotoxic and usually docile during the day. The Indian cobra is known for its hood and striking ability from a distance. The saw-scaled viper produces a distinctive sawing sound by rubbing its scales. Russel's viper is the largest and most muscular, capable of rapid strikes and is highly aggressive. Each species requires different handling techniques during rescue.

Why in news?

The Big Four snakes are mentioned in the context of snake rescues, denoting their dangers and the challenges faced by rescuers in avoiding fatal bites.

Bio-based Epoxy

Bio-based epoxy is a polymer resin derived from renewable biological sources such as plant oils, lignin, or sugars, as an alternative to traditional petroleum-based epoxies. It offers similar mechanical properties, thermal stability, and chemical resistance while reducing carbon footprint and environmental impact. Bio-based epoxies are increasingly used in composites, coatings, adhesives, and electronics. Their production involves sustainable feedstocks and often lower volatile organic compound emissions. Challenges include cost competitiveness and curing times compared to petroleum-based counterparts. Advances in bio-based epoxy formulations aim to improve compatibility with natural fibers like bamboo for enhanced composite performance.

Why in news?

The best-performing bamboo composite developed by IIT Guwahati used bio-based epoxy resin to enhance mechanical strength and thermal stability, promoting sustainability in automotive components.

Bioenergy Sector in India

India's **bioenergy sector** utilizes organic materials like agricultural residues, animal waste, and forestry byproducts to generate energy. It supports rural livelihoods by creating employment and income opportunities in biomass collection, processing, and energy generation. The sector contributes to circular economy objectives by converting waste into energy, reducing landfill use and pollution. Bioenergy technologies include biogas plants, biomass power plants, and biofuels. The sector has grown from a marginal role to contributor to India's renewable energy mix, aiding rural development and clean energy goals. It complements solar and wind energy by providing stable, dispatchable power.

Why in news?

The bioenergy sector is recognized for its increased role in India's clean energy landscape, contributing to rural employment and circular economy goals alongside solar and wind power growth.

Biofloc System

The biofloc system is an aquaculture technique that recycles nutrients and organic matter, converting waste into microbial protein that fish can consume. It reduces water usage by maintaining water quality through microbial communities. This method enhances fish growth, disease resistance, and feed efficiency. Biofloc technology is particularly useful in freshwater and brackish water fish farming. It supports sustainable aquaculture by minimizing environmental impact and lowering operational costs. The system is gaining traction in India, including Assam, as part of modern fish production practices.

Why in news?

The Aqua Tech Park in Assam showcases the biofloc system as one of the advanced technologies to improve fish production and sustainability in the region.

Biogas Slurry

Biogas slurry is the nutrient-rich residue left after anaerobic digestion of cattle dung in

biogas units. It acts as an organic fertiliser, rich in nitrogen, phosphorus, and potassium, improving soil fertility and crop yields. The slurry is free from pathogens and chemicals, making it suitable for organic farming. It can be sold to nearby farmers, creating a new income source. Biogas slurry also helps reduce chemical fertiliser use, lowering environmental pollution. In Uttar Pradesh, cow shelters produce up to 50 quintals of slurry monthly, supporting sustainable agriculture and rural economies through its utilisation.

Why in news?

The Uttar Pradesh government plans to establish biogas and organic fertiliser plants in 43 cow shelters to produce slurry for organic farming and rural income enhancement.

Biological Nitrification Inhibition (BNI)

BNI is a plant trait that suppresses soil nitrification, reducing nitrogen loss by inhibiting soil microbes that convert ammonium into nitrate. This helps retain nitrogen in the soil, increasing fertilizer efficiency and reducing environmental pollution. Crops with BNI can reduce the need for nitrogenous fertilizers like urea by up to 20%. CIMMYT has incorporated BNI traits into high-yield wheat and maize lines, and BISA is developing BNI elite wheat lines for commercial release. BNI contributes to sustainable agriculture by improving nitrogen use efficiency and mitigating greenhouse gas emissions.

Why in news?

BNI traits are being bred into wheat varieties in India to improve nitrogen retention, reduce fertilizer use, and enhance sustainability in agriculture amidst rising climate and environmental concerns.

Biostimulants

Biostimulants are **substances or microorganisms** that enhance plant growth and productivity by stimulating natural plant processes, independent of essential nutrients. They can improve nutrient uptake, stress tolerance, and crop quality. Unlike fertilizers, biostimulants do not directly provide nutrients but enhance the plant's metabolic processes. Common biostimulants include seaweed extracts, humic acids, and beneficial microbes. Their regulation varies globally, with many countries lacking strict standards. **Fake or spurious biostimulants** often flood markets, leading to ineffective or harmful products. Proper scientific validation and regulatory oversight are crucial for ensuring genuine benefits to farmers and crops.

Why in news?

Concerns were raised by the Union Minister for Agriculture about the unchecked sale of fake biostimulants in India, prompting calls for stricter regulation and review of these products' efficacy.

Biswanath Wildlife Division

Biswanath Wildlife Division is part of Kaziranga Tiger Reserve and was first sampled for tiger population in 2024, recording **27 tigers**. This division's inclusion in surveys contributed to the overall increase in KTR's tiger count. It covers a forested landscape that connects with other divisions, aiding tiger dispersal and breeding. The division's habitat

expansion forms part of a broader strategy to reclaim tiger habitats in Assam. Biswanath supports a mix of female and male tigers, contributing to genetic diversity and population stability in the reserve.

Why in news?

Biswanath Wildlife Division was included for the first time in the 2024 tiger population survey of Kaziranga, revealing a notable number of tigers and impacting overall tiger density figures.

Black Buck

The **black buck** (Antilope cervicapra) is a medium-sized antelope native to the Indian subcontinent, recognized for its striking dark coat and spiral horns in males. It prefers open, semi-arid grasslands and scrub forests. Black bucks are herbivores, feeding mainly on grasses, herbs, and shrubs. Their population has declined due to habitat loss, poaching, and fencing barriers disrupting migration. They live in herds, and males are territorial during breeding season. The species is protected under the Indian Wildlife Protection Act, 1972, but faces threats from agricultural expansion and human-wildlife conflict.

Why in news?

Black buck populations are declining sharply in Rajasthan due to habitat loss, illegal fencing, and poaching, prompting concern among wildlife officials and local communities.

Black Carbon (Soot)

Black Carbon (BC), commonly known as soot, is a component of fine particulate matter (PM2.5) produced by incomplete combustion of fossil fuels, biomass, and wood. BC contributes to atmospheric warming due to its light-absorbing properties. It is pollutant in urban and rural areas with heavy traffic or biomass burning. BC particles can penetrate deep into lungs and enter the bloodstream, causing inflammation and oxidative stress. Unlike other PM2.5 components, BC is not consistently monitored separately by many pollution control agencies, including India's Central Pollution Control Board.

Why in news?

The Cambridge study found that each 1 μg/m^3 increase in long-term soot exposure raises dementia risk by 13%, emphasizing its health impact.

Building Resilient Infrastructure and Communities (BRIC)

The **BRIC programme** was a FEMA initiative launched to provide multi-billion dollar grants for pre-disaster mitigation projects. It operated for over 30 years, funding around **2,000 projects** and distributing $4.5 billion in the last four years alone. BRIC supported infrastructure fortification such as levees, safe rooms, vegetation management, and seismic retrofitting. The program focused on proactive disaster risk reduction, saving lives, reducing injuries, protecting property, and lowering disaster response costs. It was terminated by FEMA in April 2025, leading to widespread project delays and cancellations nationwide.

Why in news?

Twenty US states filed a lawsuit in July 2025 to challenge the Trump administration's

termination of the BRIC programme, citing risks to community safety and infrastructure resilience.

Climate Policy Initiative (CPI)

The Climate Policy Initiative (CPI) is a global research organization focused on improving energy and land use policies through data-driven analysis. Founded in 2009, CPI specializes in tracking climate finance flows and policy impacts worldwide. It produces comprehensive reports such as the Global Landscape of Climate Finance, which analyzes capital allocation for climate action across sectors and regions. CPI operates offices in multiple countries and collaborates with governments, NGOs, and financial institutions. It is known for pioneering methodologies that assess climate finance trends, gaps, and risks, supporting evidence-based decision-making for climate mitigation and adaptation investments.

Why in news?

CPI released its Global Landscape of Climate Finance 2025 report, denoting record $1.9 trillion climate finance in 2023 and gaps in funding needed to meet future climate goals.

Compensatory Afforestation (CA)

Compensatory Afforestation (CA) is the practice of planting trees on non-forest land to compensate for forest land diverted for non-forest use. It aims to achieve no net loss of forest cover but often involves planting monoculture plantations or commercially valuable species like rubber and mango. CA can be carried out on degraded, unclassed, or revenue forests, which have legal protections under earlier Supreme Court orders. The funds for CA usually come from project proponents rather than government schemes like CAMPA. The ecological value of CA plantations is often lower than natural forests due to reduced biodiversity and altered ecosystems.

Why in news?

CA is under scrutiny after the Government of India approved clearing over 8,500 hectares of forests in early 2025, with compensatory afforestation being permitted on legally protected forest categories, violating Supreme Court directives.

Dachigam Forests

The **Dachigam forests** are located near Srinagar in Jammu and Kashmir, covering an area of approximately 141 square kilometers. These forests are part of the Dachigam National Park, known for its rich biodiversity, including the endangered Hangul deer. The forest terrain is dense and rugged, making it a challenging environment for security operations. Dachigam serves as a natural habitat and a strategic hideout for militants due to its remoteness and difficult access. Local nomads, who traverse the forests regularly, often provide critical intelligence to security forces operating in the region.

Why in news?

Dachigam forests were the site where suspicious communications led security forces to launch Operation Mahadev against Lashkar-e-Taiba terrorists.

Dehing Patkai National Park

Dehing Patkai National Park, located in Assam's Dibrugarh and Tinsukia districts, spans **231.65 square kilometers** and borders Arunachal Pradesh. Declared a national park in June 2021, it is known as the **Amazon of the East** due to its dense tropical rainforest. The park hosts over **300 bird species**, 47 mammal species, and 100 butterfly species. Key fauna include clouded leopards, Asiatic elephants, hoolock gibbons, and hornbills. It plays important role in conserving old-growth forests and arboreal wildlife. Despite its importance, the park faces threats from illegal coal mining, deforestation, and infrastructure projects.

Why in news?

Dehing Patkai National Park gained attention following the rare sighting of the Pale-capped Pigeon, underscoring the park's role as a vital refuge for threatened wildlife species.

Dirgheswari Temple

Dirgheswari Temple is an ancient Hindu temple located on the northern bank of the Brahmaputra River near Guwahati, Assam. It is dedicated to Goddess Durga and is religious site attracting pilgrims and tourists. The temple is situated in a forested area rich in biodiversity, providing habitat for various wildlife species. The surrounding region has been important for ecological studies due to its unique flora and fauna. The temple's location near the Brahmaputra River has cultural and ecological significance, acting as a natural corridor for species and a center of conservation interest.

Why in news?

The newly discovered gecko species _**Cnemaspis brahmaputra**_ was found in the vicinity of Dirgheswari Temple, denoting the temple's ecological importance.

Dudhwa Tiger Reserve (DTR)

The **Dudhwa Tiger Reserve** is located in the Terai region of Uttar Pradesh, covering an area of approximately 1,284 square kilometers. It includes Dudhwa National Park, Katarniaghat Wildlife Sanctuary, and a buffer zone. Established in 1977 primarily to protect the swamp deer (barasingha), it is part of the Terai Arc Landscape, a critical conservation area. The reserve hosts diverse wildlife including tigers, leopards, elephants, and over 400 bird species. Its habitats range from dense sal forests to marshy grasslands. The reserve is also notable for its community-based conservation programs involving local villagers.

Why in news?

Leopard populations in Dudhwa Tiger Reserve have increased by nearly 199% since 2022, prompting enhanced conservation and human-wildlife conflict management efforts.

Dugong Creek

Dugong Creek is a reserved area located in Little Andaman, approximately 93 km from Port Blair. It serves as a protected habitat for the Onge tribe, maintaining ecological and cultural integrity. The area is named after the dugong, a marine mammal found in the

region's coastal waters. Dugong Creek is notable for its biodiversity and tribal conservation efforts. It is also the site of the newly established Van Dhan Vikas Kendra, which integrates modern technology with traditional practices to produce high-quality coconut products, supporting the Onge community's sustainable development.

Why in news?

Dugong Creek hosts the newly set up Van Dhan Vikas Kendra for the Onge tribe, aimed at enhancing economic sustainability through coconut-based products.

Eco-Sensitive Zones (ESZs)

Eco-Sensitive Zones (ESZs) are buffer areas around protected forests, wildlife sanctuaries, and national parks in India, aimed at protecting biodiversity from harmful human activities. ESZs restrict mining, construction, and polluting industries but allow regulated farming, eco-tourism, and renewable energy use. The default ESZ radius is often 10 km, but this uniform application has been criticized for ignoring local ecological and socio-economic conditions. ESZs do not provide compensation for restrictions unlike core protected areas. They are governed by guidelines prepared by the Ministry of Environment, Forest and Climate Change and overseen by the National Board for Wildlife.

Why in news?

The Standing Committee of the National Board for Wildlife has proposed revising ESZ guidelines to allow more flexible, site-specific rules that balance conservation with local development needs.

Elephant-proof Trenches

Elephant-proof trenches are deep, wide ditches constructed around human settlements or agricultural fields to prevent elephant incursions and reduce human-elephant conflict. Trenches typically measure 2-3 meters deep and several meters wide, designed to be impassable for elephants. They are a non-lethal barrier method, used extensively in India and Southeast Asia. Maintenance is crucial as trenches can fill with debris or collapse. While effective, trenches must be combined with other strategies like community awareness and habitat management. Poorly maintained trenches can lead to elephants breaching barriers, increasing conflict risk.

Why in news?

Koundinya Wildlife Sanctuary was reported to have damaged elephant-proof trenches, limiting effective conservation and increasing human-elephant conflict risks.

EM-DAT Database

The **Emergency Events Database (EM-DAT)** is an international database maintained by the Centre for Research on the Epidemiology of Disasters (CRED) in Belgium. It compiles data on natural and technological disasters worldwide since 1900. EM-DAT defines disasters based on specific criteria, including deaths, affected people, and economic damage. It is widely used by governments, NGOs, and researchers for disaster risk analysis and policy-making. EM-DAT data up to May 2025 was used to analyze Africa's climate crisis impacts, showing a sharp rise in affected populations and mortality from

disasters, especially droughts and floods.

Why in news?

EM-DAT data forms the basis of the analysis revealing Africa's deadliest climate crisis from 2021 to 2025, with over 221 million people affected and nearly 29,000 deaths.

Escherichia coli (E. coli)

Escherichia coli is a gram-negative bacterium commonly found in the intestines of humans and warm-blooded animals. While most strains are harmless, some pathogenic varieties can cause severe gastrointestinal illness, urinary tract infections, and other health issues. E. coli contamination in water often indicates fecal pollution and poor sanitation. The Seine River's water was historically unsafe due to high E. coli levels caused by untreated sewage discharge. Monitoring E. coli concentrations is a standard method for assessing water quality and safety for recreational use.

Why in news?

The Seine's reopening for swimming was made possible by reducing E. coli contamination through infrastructure upgrades and sewage management ahead of and during the 2024 Paris Olympics.

Flue-Gas Desulfurization (FGD)

Flue-Gas Desulfurization (FGD) systems are technologies installed in coal-fired power plants to remove sulfur dioxide (SO2) from exhaust gases. These systems commonly use limestone or lime to chemically absorb SO2, producing synthetic gypsum as a byproduct. FGD reduces acid rain-causing emissions and improves air quality but increases operational costs and energy consumption. Retrofitting FGDs can raise CO2 emissions due to additional power use and limestone mining. Installation timelines per unit can take up to 45 days, with capital expenditure, often exceeding Rs 1.2 crore per megawatt in India. FGDs are mandatory in many countries for pollution control.

Why in news?

The government eased the 2015 FGD installation mandate for coal plants outside 10 km of large cities, citing cost, emissions, and air quality studies, impacting compliance and electricity pricing.

Foot and Mouth Disease Virus

Foot and Mouth Disease (FMD) virus affects cloven-hoofed animals, causing fever, blisters, and lameness. It is highly contagious and can spread rapidly among livestock and wild animals. The virus belongs to the Aphthovirus genus and has seven serotypes. It reduces animal immunity and increases vulnerability to secondary infections. FMD outbreaks impact agriculture and wildlife health, leading to economic losses. The virus can survive in the environment for weeks under favorable conditions. Vaccination and strict biosecurity measures are primary control strategies. Wildlife can act as reservoirs, complicating eradication efforts.

Why in news?

Lab tests confirmed FMD virus as the cause of death in 16 spotted deer at the Rajiv Gandhi Zoological Park, triggering epidemic control measures.

Fracking in India

Fracking, or hydraulic fracturing, involves injecting fluids underground to extract oil and natural gas by creating fractures in rock formations. India currently operates **56 fracking sites across six states**. This process has been linked to induced seismicity due to changes in subsurface pressure and fluid migration. Palghar district in Maharashtra has experienced a sequence of earthquakes since 2018, possibly caused by fluid migration related to fracking and rainfall. The Government of India has not yet implemented strict regulations on fracking-induced seismic risks, unlike the U.S., where reservoir and fracking operations are regulated to mitigate earthquake hazards.

Why in news?

Fracking in Maharashtra and other states is linked to recent seismic activity, prompting calls for stronger monitoring and regulation of induced earthquakes in India.

Gandhi Sagar Wildlife Sanctuary

Gandhi Sagar Wildlife Sanctuary is located in Madhya Pradesh's Mandsaur district and covers diverse habitats including dry deciduous forests and scrublands. It is part of the larger Malwa region ecosystem and supports species like leopards, chital, and now the elusive caracal. The sanctuary includes a **fenced Cheetah Closed Natural Area** designed to support the reintroduction and conservation of cheetahs and other carnivores. It has been under active monitoring by the Wildlife Institute of India since 2023, focusing on predator-prey dynamics and habitat restoration as part of Project Cheetah.

Why in news?

The sanctuary's fenced area yielded photographic evidence of caracal presence for the first time in two decades, demonstrating the success of habitat restoration efforts under Project Cheetah.

Garcinia kusumae

Garcinia kusumae is a newly identified tree species from Assam, belonging to the genus Garcinia. It is a dioecious evergreen tree growing up to 18 meters tall, flowering from February to April and fruiting between May and June. The species has up to 15 staminate flowers per fascicle and fewer stamens per flower compared to related species. Its berries produce a blackish resinous exudate. The fruit is culturally , used locally to make a sherbet drink that prevents heat stroke and is also used in traditional remedies for diabetes and dysentery. The seed aril is eaten raw with spices.

Why in news?

Garcinia kusumae was recently discovered and scientifically described, adding to Assam's botanical diversity. It was named in honor of Kusum Devi, mother of botanist Jatindra Sarma, who co-authored the study.

Genetic Engineering Appraisal Committee (GEAC)

The **Genetic Engineering Appraisal Committee (GEAC)** is India's apex biosafety regulatory authority under the Ministry of Environment, Forest and Climate Change. It evaluates genetically modified organisms (GMOs) for environmental safety, human health,

and commercial release. Established under the Environment Protection Act of 1986, GEAC oversees risk assessments, field trials, and biosafety data. It includes experts from multiple disciplines and government bodies. The committee plays a critical role in balancing biotechnology advancement with biosafety concerns. GEAC's decisions influence India's agricultural biotechnology policies, including approvals for Bt cotton and other genetically engineered crops.

Why in news?

GEAC is reviewing the approval of HtBt cotton for commercial cultivation based on a three-year biosafety study, a key step in India's plan to revive cotton production.

Gharial Crocodile Conservation

The **Gharial** (Gavialis gangeticus) is a critically endangered crocodilian species native to the Indian subcontinent, recognized by its long, narrow snout. Satkosia Gorge is one of the few in situ breeding sites for gharials in Odisha. Gharials are highly sensitive to disturbances such as noise, vibrations, and light pollution, which can disrupt their breeding and feeding behaviors. Conservation efforts include habitat protection, captive breeding, and release programs. The species primarily feeds on fish and requires clean, fast-flowing river habitats with sandy banks for nesting.

Why in news?

The planned bridge construction threatens the gharial breeding site at Satkosia Gorge, potentially harming this critically endangered species.

Global Atmospheric Angular Momentum (GLAAM)

Global Atmospheric Angular Momentum (GLAAM) measures the Earth's atmospheric rotation changes caused by wind patterns. It reflects how the atmosphere's angular momentum varies due to movements like jet stream shifts. Low GLAAM values often precede widespread heat ridges in mid-latitudes, signaling potential heat dome formation. GLAAM is calculated using satellite data and ground-based meteorological observations. It is important predictor for seasonal and sub-seasonal weather phenomena, including extreme heat events. The metric helps forecasters anticipate atmospheric circulation changes affecting temperature and storm patterns. GLAAM values fluctuate with global climate dynamics and are monitored by weather agencies worldwide.

Why in news?

GLAAM was brought into light as a key indicator predicting the recent heat dome that caused record temperatures in the eastern US, influencing forecasts of extreme heat waves and their impacts.

Global Soil Biodiversity Observatory (GLOBSOB)

GLOBSOB is an initiative by the Food and Agriculture Organization (FAO) launched at COP15 to monitor and protect soil biodiversity globally. It uses a tiered system expanding from soil chemical analysis to microbial genetic diversity via shotgun metagenomic sequencing. It aims to standardize monitoring protocols and inform policy frameworks. GLOBSOB supports efforts like the Global Soil Partnership and projects such as Soil

Doctors and Recarbonization of Global Agricultural Soils, focusing on soil health, nutrient cycling, and combating desertification worldwide.

Why in news?

FAO launched GLOBSOB to address the lack of standardized soil biodiversity monitoring and to support integration of soil data into global environmental policies.

Global Wetland Outlook 2025 (GWO 2025)

The **Global Wetland Outlook 2025** is a special edition report released at Ramsar COP15, providing updated data on the status, trends, and economic value of wetlands worldwide. It reveals that wetlands have declined by **35% since 1970**, a rate three times faster than forest loss, and warns that **20% of wetlands could disappear by 2050**. The report estimates the economic cost of wetland loss at **$39 trillion** in ecosystem services, including water purification, flood control, and carbon storage. It advocates for urgent restoration, sustainable management, and integration of wetlands into climate policies to prevent further degradation.

Why in news?

The GWO 2025 report was launched and discussed at Ramsar COP15, denoting the critical global decline of wetlands and providing recommendations for their conservation and restoration.

GRACE Missions

The **Gravity Recovery and Climate Experiment (GRACE)** and its successor, GRACE-Follow On, are twin satellites launched by NASA and the German Aerospace Center to measure Earth's gravity field changes. They detect subtle shifts caused by mass redistribution, such as water movement, ice melt, and groundwater depletion. Launched in 2002 and 2018 respectively, these missions provide unique data on changes in terrestrial water storage. They can track groundwater loss invisible to traditional methods. GRACE data has been very important in understanding global water cycles, ice sheet dynamics, and sea level rise. The satellites orbit Earth approximately every 90 minutes.

Why in news?

GRACE and GRACE-Follow On data were used to reveal alarming rates of continental drying and groundwater depletion, denoting a global water security crisis.

Grassland Bird Specialists

Grassland bird specialists are bird species adapted to live primarily in grassland ecosystems, which include prairies, savannas, and scrublands. These birds depend on open habitats with specific vegetation structures for nesting, feeding, and breeding. Examples include the Indian Courser and the Yellow-wattled Lapwing. Grassland specialists have experienced steep population declines globally due to habitat loss from agricultural expansion, urbanization, and afforestation. Their diets often include insects and small vertebrates. Grassland birds are sensitive to changes in fire regimes and grazing intensity. Conservation of these species requires maintaining large, contiguous grassland patches and managing habitat quality.

Why in news?

Grassland bird specialists in India have shown some of the steepest declines in population, as brought into light in the State of India's Birds 2023 report, raising conservation concerns.

Great Indian Bustard (GIB)

The **Great Indian Bustard** is a critically endangered bird native to the Indian subcontinent, primarily found in Rajasthan and Gujarat. It has a **poor frontal vision** and **heavy body**, which make it vulnerable to fatal collisions with power transmission lines. Its population is fewer than **150 individuals**, declining due to hunting, habitat loss, egg poaching, and predation. The bird reproduces at a naturally low rate. The Wildlife Institute of India estimates that the death of **4-5 birds annually** from electrocution could cause extinction within 20 years. Conservation zones cover thousands of square kilometers in western India.

Why in news?

A Supreme Court-appointed committee has proposed dedicated power line corridors and undergrounding some lines in Rajasthan and Gujarat to protect the Great Indian Bustard from electrocution risks posed by renewable energy infrastructure expansion.

Great Nicobar Holistic Development Project

The Great Nicobar Holistic Development Project is a large-scale infrastructure initiative in the Nicobar Islands with an estimated cost of ₹81,800 crore. It includes four major components – an **International Container Transshipment Terminal (ICCT)**, an international airport, a power plant, and a township. A Trunk Infrastructure Road will cut through Great Nicobar Island to connect these developments. The project aims to boost regional connectivity and economic growth but raises environmental concerns due to its location in the **Sundaland Biodiversity Hotspot**. It is one of the most ambitious infrastructure projects in India's island territories.

Why in news?

The project is brought into light due to its scale, cost, and environmental implications amid new regulatory amendments facilitating infrastructure development in island zones.

Greater Tropics

The **Greater Tropics** encompass tropical and subtropical regions covering nearly 60% of Earth's land surface. These areas support a majority of global biodiversity and sustain the livelihoods of about **one billion people**. The Greater Tropics include diverse ecosystems ranging from rainforests to savannas, and are critical carbon sinks. They face rapid ecological changes due to invasive species and climate change. The term integrates multiple biogeographic zones that share similar climatic and ecological characteristics, denoting their interconnected vulnerability to environmental threats and human activities.

Why in news?

The Greater Tropics are brought into light due to a recent study revealing rapid invasion by alien plant species, threatening biodiversity and human livelihoods in these critical regions.

Guinea-worm Disease (Dracunculiasis)

Guinea-worm disease, caused by the parasite **Dracunculus medinensis**, is transmitted by drinking contaminated water containing infected copepods. The worm emerges painfully through the skin, causing disability. It was once widespread in Africa and Asia but is close to eradication due to intensive water filtration, health education, and containment efforts. Senegal eliminated Guinea-worm disease in 2004, becoming one of the first African countries to achieve this. The Carter Center leads global eradication efforts, with cases reduced from millions in the 1980s to fewer than 20 annually as of 2025.

Why in news?

Senegal's elimination of Guinea-worm disease in 2004 was the first NTD victory before its recent trachoma elimination, denoting decades of successful public health campaigns.

Harit Sagar Initiative

Harit Sagar is an environmental initiative launched by the Government of India aimed at promoting **green and sustainable practices in the maritime sector**. It focuses on reducing pollution and carbon emissions from ports and shipping activities. The program encourages the adoption of renewable energy, waste management, and eco-friendly technologies in port operations. It aligns with global efforts to combat climate change by encouraging cleaner water transport. Harit Sagar also promotes awareness and capacity building among port authorities and stakeholders to implement sustainable maritime infrastructure and practices.

Why in news?

The Harit Sagar initiative was brought into light during the BIMSTEC Ports Conclave as part of efforts to encourage economic development through environmentally sustainable water transport.

Heat Island Effect

The heat island effect occurs when urban areas experience higher temperatures than surrounding rural regions due to dense buildings, asphalt, and limited vegetation. It traps heat, raising local temperatures by several degrees Celsius. This effect intensifies during heatwaves, increasing physical and psychological stress on city residents. It reduces nighttime cooling, prolonging heat exposure and exacerbating sleep disturbances. Urban heat islands contribute to increased energy consumption for cooling and worsen air pollution. The phenomenon is a major factor in urban climate change adaptation strategies and has been linked to higher rates of heat-related illnesses and mental health challenges.

Why in news?

The heat island effect has been identified as a key driver of rising heat anxiety and mental health crises during the 2025 UP heatwave, worsening urban residents' psychological strain.

Heat-Health Action Plans

Heat-health action plans are formal strategies adopted by governments to reduce health

risks during heatwaves. These plans typically include early warning systems, public awareness campaigns, and measures to protect vulnerable populations such as the elderly and children. As of 2022, only **21 out of 57 countries in the WHO Europe region** had implemented such plans, indicating gaps in preparedness. These plans are critical for reducing heat-related mortality and morbidity, especially as heatwaves increase in frequency and intensity due to climate change. Effective heat-health action plans integrate meteorological data with public health responses to mitigate impacts.

Why in news?

The WHO brought into light the lack of widespread heat-health action plans in Europe amid the 2025 heatwave crisis, calling for urgent improvements to prevent tens of thousands of heat-related deaths.

Heated Tobacco Products (HTPs)

Heated Tobacco Products (**HTPs**) are devices that heat tobacco to release nicotine-containing aerosol without combustion. Unlike cigarettes, they do not burn tobacco but heat it below 350°C. Introduced in the early 2010s, HTPs are marketed as reduced-risk alternatives to smoking. Their long-term health effects remain unclear due to limited research. These products have gained popularity among youth and adults in several countries. Major tobacco companies heavily promote HTPs, raising concerns about dual use and nicotine addiction. Regulatory frameworks for HTPs vary globally, with some countries banning or restricting their sale.

Why in news?

HTPs are brought into light due to their rising market presence and unknown health impacts, posing new challenges for tobacco control and youth nicotine addiction prevention.

Hinauta Elephant Camp

Hinauta Elephant Camp is a specialized facility within Panna Tiger Reserve dedicated to the care and management of elephants. It provides daily bathing, feeding, and medical care for resident elephants. The camp supports both captive elephants and those semi-wild or injured. It serves as a center for veterinary examination and treatment, especially for older or ailing elephants like Vatsala. The camp also plays a role in elephant social structure maintenance, allowing older elephants to mentor younger ones. It is situated near the Khairaiyaan drain, which provides water essential for bathing and hydration.

Why in news?

Hinauta Elephant Camp was the place where Vatsala was cared for daily during her final years, playing a key role in her longevity and well-being.

Holomycotrophic Orchids

Holomycotrophic orchids are a group of orchids that completely lack chlorophyll and leaves, relying entirely on symbiotic fungi for nutrients. These fungi form underground mycorrhizal associations, supplying carbon and other nutrients to the orchid since it cannot photosynthesize. Holomycotrophic orchids are rare and often small, with

camouflaged appearances that make them difficult to find. They typically grow in shaded, moist forest floors with rich organic matter. Their dependence on fungal partners makes them highly sensitive to environmental changes and habitat disturbance, often placing them at risk of extinction. The genus Chamaegastrodia is an example of holomycotrophic orchids.

Why in news?

The discovery of Chamaegastrodia reiekensis, a holomycotrophic orchid species, puts stress on the ecological complexity and conservation challenges of such fungi-dependent plants in Northeast India.

IIT Kanpur Cloud Seeding Project

IIT Kanpur is leading the "Technology Demonstration and Evaluation of Cloud Seeding as an Alternative for Delhi NCR Pollution Mitigation" project. The institute developed a **special seeding formulation** combining silver iodide nanoparticles, iodised salt, and rock salt. Modified **Cessna aircraft** equipped with flare-based dispersal systems will conduct at least five sorties over low-security air zones, covering 100 sq km per flight. Each flight lasts about 90 minutes. IIT Kanpur previously tested the technique using a mist-sprinkler system aboard aircraft. The project aims to demonstrate cloud seeding as a pollution control method during favorable weather windows.

Why in news?

IIT Kanpur submitted the flight plan for Delhi's first cloud seeding operation to IMD Pune, facilitating technical coordination for the pollution mitigation experiment in July 2025.

India Meteorological Department (IMD)

The India Meteorological Department (IMD) is the national agency responsible for weather forecasting, climate monitoring, and seismology in India. Established in **1875**, it operates a network of weather stations and radar systems nationwide. IMD provides monsoon forecasts critical for agriculture and disaster preparedness. It issues warnings for cyclones, floods, and heatwaves. IMD also maintains historical climate data, including rainfall records for places like Sohra. The department collaborates with international meteorological organizations and contributes to global climate research. Its data plays a key role in studying the effects of climate change on Indian weather patterns.

Why in news?

IMD reported the steep rainfall decline in Sohra for June 2025, denoting an alarming trend in monsoon irregularities linked to climate change.

Indian Courser

The **Indian Courser** (Cursorius coromandelicus) is a ground-dwelling bird native to arid and semi-arid regions of India. It prefers open landscapes with sparse vegetation for nesting. The species lays eggs directly on bare ground, making nests vulnerable to predation and human disturbance. It is known for its swift running ability rather than flight. The Indian Courser's population is sensitive to habitat changes caused by agriculture and urbanization. Conservation efforts include nest protection and habitat

management. The bird is often confused with lapwings but differs in behavior and habitat preference. It is classified as Near Threatened by the IUCN.

Why in news?

The Rollapadu Wildlife Sanctuary showed the highest improvement in Management Effectiveness Evaluation, with recommendations to expand nest protection for the Indian Courser and manage human-wildlife conflict involving blackbucks.

Indo-Burma Biodiversity Hotspot

The **Indo-Burma Biodiversity Hotspot** is one of 34 global biodiversity hotspots, covering parts of northeastern India, Myanmar, Thailand, and surrounding regions. It harbors over 13,500 plant species and numerous endemic fauna species, including rare orchids, primates, and reptiles. The hotspot faces threats from deforestation, habitat fragmentation, and climate change. It includes Meghalaya, known for its rich flora and fauna adapted to heavy rainfall. Conservation efforts focus on protecting endangered species and ecosystems. It is one of four biodiversity hotspots in India, emphasizing its global ecological importance.

Why in news?

Meghalaya's decreasing rainfall trends threaten the Indo-Burma hotspot's ecosystems, impacting biodiversity and agriculture, prompting calls for further research on climate change effects.

International Union for Conservation of Nature (IUCN)

The **International Union for Conservation of Nature (IUCN)**, founded in 1948, is a global organization focused on nature conservation and sustainable use of natural resources. It convened the 1963 meeting where the idea for CITES was first proposed. IUCN maintains the Red List of Threatened Species, a key indicator of global biodiversity health. It brings together governments, NGOs, scientists, and indigenous communities to develop conservation policies and strategies. IUCN also promotes protected areas, ecosystem restoration, and species recovery programs. It operates through a network of commissions and regional offices, influencing international environmental agreements and national conservation laws.

Why in news?

IUCN is mentioned as the originator of the CITES concept, marking its historical role in global wildlife trade regulation efforts.

Jayara Sacred Place

Jayara is a sacred site located within the territorial jurisdiction of Similipal Tiger Reserve in Odisha. It holds religious significance for the Munda tribal community, who have performed rituals there for generations. The site is situated in a forested area, making it part of a protected tiger habitat. Access to Jayara has been restricted recently due to conservation activities like the Tiger Supplementation Programme. The name Jayara is rarely mentioned in mainstream sources, mainly known through tribal oral traditions and local folklore. It symbolizes the intersection of indigenous spirituality and environmental

protection challenges.

Why in news?

Jayara is central to the dispute as the Munda community's ritual access has been prohibited by forest authorities during ongoing tiger conservation efforts at Similipal Tiger Reserve.

Jet Stream Temperature Gradient

The jet stream is driven by the temperature gradient between the Arctic and tropical regions. This gradient maintains the jet stream's speed and path, pushing weather systems across the globe. Arctic warming reduces this gradient, weakening and destabilizing the jet stream. A weaker gradient leads to slower, more meandering jet stream patterns that can stall weather systems, including heat domes. This destabilization can cause prolonged extreme weather events. The jet stream's behavior is a major focus of climate research due to its influence on mid-latitude weather variability and extreme events. Scientists debate the extent and mechanisms of Arctic warming's impact on the jet stream.

Why in news?

Changes in the jet stream's temperature gradient were cited as factors in the persistence of the recent heat dome over the eastern US, impacting weather predictability and climate extremes.

Joint Monitoring Programme (JMP)

The **Joint Monitoring Programme (JMP)** is a global initiative by WHO and UNICEF established in 1990 to monitor progress on water, sanitation, and hygiene (WASH) worldwide. It provides standardized data on access to safe drinking water and sanitation, influencing global policies and funding. JMP data informs Sustainable Development Goal (SDG) targets, especially SDG 6. It uses household surveys and censuses for data collection and publishes regular reports tracking global WASH progress. JMP also assesses hygiene services in healthcare facilities, a relatively recent focus, denoting gaps in hand hygiene and sanitation infrastructure essential for infection prevention.

Why in news?

JMP's latest report reveals half of healthcare facilities globally lack basic hygiene services, emphasizing urgent need for improvements aligned with the 2023 UN Resolution on WASH in health-care facilities.

Kakatiya Varasatva Sampadha Protection Committee

The **Kakatiya Varasatva Sampadha Protection Committee** is a local organization focused on preserving the cultural and environmental heritage of the Kakatiya dynasty era in Telangana. It actively campaigns against urban development projects that threaten historic sites and natural resources. The committee often collaborates with activists to protect lakes, monuments, and ancient structures linked to the Kakatiya period (12th to 14th century CE). It marks the ecological and historical significance of such sites, advocating sustainable development. The committee's efforts have influenced local

government decisions on heritage conservation and environmental protection in the Warangal region.

Why in news?

The committee is opposing the state government's plan to develop new islands in Bhadrakali Lake, fearing it will shrink the lake and increase flooding risks.

Kanakamani (Horse Gram)

Kanakamani is a **horse gram variety** cultivated mainly in southern India. Horse gram is a drought-resistant legume, rich in protein and dietary fiber, often used in traditional Indian cuisine and folk medicine. Kanakamani is prized for its **nutritional value** and ability to grow in poor soil conditions. It plays role in crop rotation and soil fertility improvement due to its nitrogen-fixing properties. The variety is also known for its resistance to pests and diseases, making it a sustainable crop choice for small-scale farmers in semi-arid regions.

Why in news?

Kanakamani seeds were sent to the ISS to test how microgravity affects their growth and yield, with results expected to aid agricultural research back on Earth.

Kanchan Tree

The Kanchan tree, scientifically known as "Bauhinia variegata", is a fast-growing leguminous tree native to the Indian subcontinent. It is notable for its **deep root system** which stabilizes soil and prevents erosion. The tree propagates easily from branches, especially during the monsoon season, enabling natural reforestation. It produces **bright yellow flowers** and provides shade, enhancing local biodiversity. The Kanchan tree also enriches soil fertility by fixing nitrogen. Traditionally used in agroforestry and erosion control, it is drought-resistant and thrives in riverbank ecosystems. Its ability to form dense thickets makes it a natural barrier against strong river currents and soil loss.

Why in news?

The residents of Pathorichuk village in Majuli, Assam, have successfully used Kanchan trees to combat severe riverbank erosion along the Brahmaputra River, offering a sustainable alternative to conventional anti-erosion methods.

Kanniyakumari Wildlife Sanctuary

The Kanniyakumari Wildlife Sanctuary is located at the southern tip of India in Tamil Nadu. It covers an area of approximately 268 square kilometers and hosts diverse flora and fauna, including many endemic species. The sanctuary's terrain varies from dense forests to grasslands and coastal areas. It is important habitat for several rare and endangered species, including the Nilgiri Tahr and the Lion-tailed Macaque. The sanctuary also supports a rich variety of insects, particularly moths, which are important for pollination and ecosystem balance. It is part of the Western Ghats biodiversity hotspot, recognized by UNESCO.

Why in news?

The sanctuary is in the news due to a doctoral research documenting 450 moth species, denoting its rich moth biodiversity and aiding future conservation efforts.

Kashmir Valley Climate

The **Kashmir Valley** has a temperate climate with four distinct seasons – spring, summer, autumn, and winter. Winters (December to February) bring temperatures well below freezing and heavy snowfall in high-altitude areas. Summers (June to August) are usually mild, with temperatures up to 36°C in urban areas and around 30°C in resorts like Gulmarg and Pahalgam. Western disturbances regularly bring rainfall, cooling the region. The valley's climate has been stable for decades but has recently shown increased temperature variability and extended dry spells, contributing to rising average temperatures and altered seasonal patterns.

Why in news?

The Kashmir Valley recorded its highest day temperature in over seven decades on July 5, 2025, with Srinagar reaching 37.4°C and Pahalgam its highest-ever 31.6°C, signaling climate changes.

Kasturirangan Report

The Kasturirangan report was prepared by a committee led by space scientist K. Kasturirangan in 2013 to identify ecologically sensitive zones in the Western Ghats. It recommended designating 56,825 sq km as ESAs with restrictions on mining, quarrying, and large-scale industrial activities. The report aimed to balance environmental conservation with sustainable development. It proposed a zonal classification system with varying degrees of protection. The report replaced the earlier Gadgil panel report, which had suggested a more extensive ESA. The Kasturirangan report faced criticism from some state governments for its perceived impact on development and livelihoods.

Why in news?

The Kasturirangan report forms the basis of the current draft ESA notification under discussion by the expert panel, influencing the extent and regulation of ESAs in the Western Ghats states.

Katarniaghat Wildlife Sanctuary

Katarniaghat Wildlife Sanctuary is a protected area within the Dudhwa Tiger Reserve in Uttar Pradesh, spanning about 400 square kilometers. It is characterized by sal forests, grasslands, and wetlands, supporting species such as tigers, leopards, swamp deer, and various birds. The sanctuary was declared a tiger reserve in 1987 and forms an important corridor connecting Nepal's Bardia National Park and Dudhwa National Park. Katarniaghat's biodiversity contributes to the Terai Arc Landscape. The sanctuary also faces challenges of human encroachment and poaching, addressed through conservation initiatives.

Why in news?

Leopard population in Katarniaghat Wildlife Sanctuary increased by 254% from 2022 to 2025, indicating successful conservation but raising human-wildlife conflict concerns.

Kaziranga Grassland Bird Census

The **Kaziranga Grassland Bird Census** was the first-ever systematic effort to document

bird species specifically in the grassland habitats of Kaziranga National Park. Conducted from March 18 to May 25, 2025, it covered 185 grassland sites. The census identified **43 bird species**, including several rare and endangered ones, denoting the ecological importance of the grasslands within the park, which is better known for its one-horned rhinos. The survey used sound recording devices combined with **Artificial Intelligence** to identify birds by their calls without disturbing them. This method represents a new technological approach in wildlife monitoring.

WHY IN NEWS?

The census was commended by Prime Minister Narendra Modi in his 'Mann Ki Baat' program for its pioneering use of technology and its success in identifying numerous bird species in Kaziranga's grasslands, emphasizing conservation efforts.

Kaziranga Horn Storage

Kaziranga National Park in Assam stores confiscated rhino horns in secure treasuries before destruction or scientific analysis. These horns, often seized from poachers, are cataloged and reconciled under strict protocols. In 2021, 2,479 horns were destroyed after excluding those with legal or scientific importance. Samples from these horns are retained for genetic and chemical studies to support rhino population management. The storage and repackaging process is monitored by independent experts to maintain chain-of-custody and sample integrity for research and forensic use.

WHY IN NEWS?

The Kaziranga horn storage facility was recently involved in repackaging and preparing thousands of rhino horn samples for DNA analysis at the Wildlife Institute of India.

Kaziranga Tiger Reserve

Kaziranga Tiger Reserve (KTR) in Assam covers an area of **1,307.49 sq. km** and recorded **148 tigers in 2024**. It has the third-highest tiger density in India with **18.65 tigers per 100 sq. km**, following Bandipur and Corbett reserves. The reserve uses the **spatially explicit capture-recapture method** with camera traps for precise tiger population estimates. KTR includes three divisions – Eastern Assam, Nagaon, and Biswanath Wildlife Divisions. Biswanath division was sampled for the first time in 2024, recording 27 tigers. The reserve also expanded by **200 sq. km** recently, enhancing habitat connectivity and tiger movement.

WHY IN NEWS?

KTR reported rise in tiger numbers in 2024, marking the third-highest tiger density in India and denoting conservation success through habitat expansion and advanced survey methods.

Khongnang Pheidekpi

Khongnang Pheidekpi is a locality in the Imphal West district of Manipur, designated as the type locality for Barilius imphalensis. The area features river habitats with shallow waters, gravel, and cobble beds. Vegetation along the riverbank includes Eiranthus procerus and Saccharum munja, plants typical of riparian zones in Northeast India. The

region's freshwater ecosystems support endemic fish species and diverse aquatic life. Khongnang Pheidekpi's ecological conditions are crucial for sustaining species like Barilius imphalensis, making it an important site for ichthyological research.

Why in news?

Khongnang Pheidekpi gained attention as the discovery site and type locality of the new fish species Barilius imphalensis, emphasizing its ecological significance.

Kumaon Fan Palm

The Kumaon Fan Palm (Trachycarpus takil) is a rare palm species endemic to the Kumaon region of Uttarakhand. It thrives in temperate Himalayan forests at altitudes between 1500 and 2700 meters. This palm is characterized by its fan-shaped leaves and slow growth. It is culturally to local communities and used in traditional crafts. Habitat destruction and climate change have led to its decline, making it critically endangered. The species is part of local biodiversity conservation efforts involving habitat protection and propagation in botanical gardens. It is included in the Uttarakhand State Biodiversity Board's endangered species list.

Why in news?

The Kumaon Fan Palm is included in Uttarakhand's current replanting program aimed at reviving critically endangered plant species within their natural habitats.

Laterite Plateaus

Laterite plateaus are iron-rich rocky outcrops primarily found in the Western Ghats region of India. These seasonal ecosystems appear barren during dry periods but burst into biological activity during monsoons, supporting a high concentration of endemic and threatened flora and fauna. They play a vital role in **groundwater recharge** by feeding springs and streams essential for agriculture and local water supply. Despite their ecological significance, these plateaus have often been mischaracterized as wastelands, leading to widespread conversion for industrial and urban use, which threatens their biodiversity and hydrological functions.

Why in news?

Laterite plateaus are central to environmental debates in Goa, as multiple plateau ecosystems, including Surla, face destruction from development projects labeled as eco-tourism or industrial expansions.

Lesser Florican

The Lesser Florican (**Sypheotides indicus**) is a small bustard species native to the Indian subcontinent, known for its remarkable breeding displays during the monsoon. It inhabits grasslands and is classified as **critically endangered** due to habitat loss and fragmentation. Unlike the Great Indian Bustard, it is smaller and more elusive. Its population has declined drastically, with fewer than a few thousand individuals remaining. The bird is sensitive to agricultural expansion and infrastructure development. Conservation efforts often overlap with those for the Great Indian Bustard due to shared habitats and threats.

Why in news?

The Supreme Court case and committee mandate include conservation measures for both the Great Indian Bustard and the Lesser Florican to prevent extinction and mitigate risks from power infrastructure.

Low-Sodium Salt Substitutes

Low-sodium salt substitutes replace part of sodium chloride with potassium or magnesium salts to reduce sodium intake. These substitutes help lower blood pressure by an average of **7/4 mmHg**. They are effective in managing hypertension and improving heart health. However, availability is limited; only 28% of retail outlets in Chennai stock them, with just 4% of small grocery shops carrying these products. The price is over twice that of regular iodized salt, averaging Rs **5.6 per 100g** compared to Rs **2.7 per 100g**. Low demand and awareness affect market penetration.

Why in news?

Low-sodium salt substitutes are central to a new community-led study by ICMR's National Institute of Epidemiology aiming to reduce hypertension in India through salt consumption reduction.

Lumpy Skin Disease (LSD)

Lumpy Skin Disease is a viral disease affecting cattle caused by the Capripoxvirus. It leads to nodules on the skin, fever, reduced milk production, and infertility. The disease spreads mainly through insect vectors like mosquitoes and flies. LSD can cause severe economic losses due to decreased milk yield, damaged hides, and death in extreme cases. The virus is not transmissible to humans. Vaccination using Goat Pox vaccine provides cross-protection. LSD outbreaks have been reported primarily in Africa, the Middle East, and Asia. Control measures include vaccination, quarantine, movement restrictions, and biosecurity protocols to limit spread.

Why in news?

LSD has infected over 900 cattle in Pune district, threatening milk supply and prompting strict vaccination and transport bans to control the outbreak.

Majuli Island

Majuli is the world's largest river island, located in the Brahmaputra River in Assam. It spans approximately 880 square kilometers but has been shrinking rapidly due to severe riverbank erosion. Majuli is a cultural hub for Assamese neo-Vaishnavite monasteries called "Satras", which preserve unique religious and artistic traditions. The island's ecosystem supports diverse flora and fauna, including migratory birds. Majuli faces existential threats from annual flooding and erosion, leading to displacement of communities. Efforts to protect Majuli include embankments, geo-bags, and now ecological methods like tree plantations to stabilize its fragile landscape.

Why in news?

Majuli is under threat from continuous erosion by the Brahmaputra River, prompting innovative local efforts in Pathorichuk village to use Kanchan trees for sustainable protection.

Malaria Under-Five Mortality

Children under five years old account for the majority of malaria deaths globally, with over 67% of malaria fatalities occurring in this age group. Immature immune systems and higher exposure to mosquitoes contribute to this vulnerability. Malaria symptoms in young children can progress rapidly to severe illness, including cerebral malaria and anemia. Preventative measures such as insecticide-treated bed nets and prophylactic treatments have reduced mortality but challenges remain due to drug resistance and healthcare access. The under-five mortality rate is a key indicator in malaria control programs and influences global health funding priorities.

Why in news?

The new malaria drug approval targets the under-five age group, addressing the demographic most affected by malaria-related deaths worldwide.

Malathion

Malathion is an organophosphate insecticide widely used in agriculture and public health for controlling mosquitoes and other pests. It works by inhibiting cholinesterase, an essential enzyme for nerve function in insects. Malathion is considered moderately toxic to humans and animals but is often chosen for its relatively low persistence in the environment. It degrades quickly in soil and water, reducing long-term contamination. It is used in vector control programs to combat diseases like malaria and dengue. The pesticide is also employed in agriculture to protect crops from pests. India supplied 40,000 litres of Malathion to Afghanistan for pest control and public health.

Why in news?

India supplied 40,000 litres of the pesticide Malathion to Afghanistan as part of humanitarian aid following the Taliban takeover, supporting public health efforts in the region.

Marine Heat Waves (MHWs)

Marine Heat Waves (MHWs) are prolonged periods of abnormally high ocean temperatures, lasting days to years, and affecting large areas of the ocean surface. They have increased in frequency and intensity since the 1980s due to climate change. MHWs disrupt marine ecosystems by causing coral bleaching, altering species distributions, and collapsing fisheries. Key drivers include reduced cloud cover, weakened winds, and ocean current anomalies. MHWs are measured in °C days square kilometer, quantifying the combined effect of temperature anomaly, duration, and area. The 2023 MHWs covered 96% of oceans and lasted four times longer than historical averages.

Why in news?

The 2023 marine heat waves set new records for intensity, duration, and scale, signaling potential climate tipping points threatening marine ecosystems and fisheries worldwide.

Mineral Conservation and Development Rules, 2017

The Mineral Conservation and Development Rules (MCDR), 2017, are regulatory guidelines issued by the Government of India to ensure sustainable mining practices. They replaced

the 1988 rules and introduced comprehensive measures for mine environment management, safety, and progressive mine closure. The rules mandate periodic reporting, impact assessments, and social welfare programs. Rule 35 specifically outlines the criteria for star ratings based on four sustainability modules – mine-level impact management, progressive closure and restoration, social welfare, and reporting. The 2017 rules support the Sustainable Development Framework and are enforced by the Indian Bureau of Mines to promote responsible mining in India.

WHY IN NEWS?

The 2017 MCDR provides the regulatory basis for the star rating system under which 98 mines were evaluated and awarded in 2025 for their sustainability and compliance efforts.

Mission Sahbhagita

Mission Sahbhagita is an Government of India-led volunteer program focused on environmental conservation, particularly wetlands. Since its inception, it has engaged over **2 million volunteers** in activities such as mapping wetlands and demarcating their boundaries. The mission has contributed to the identification of more than 170,000 wetlands and the clear boundary demarcation of nearly 120,000 wetlands over three years. It supports community participation and citizen science, enhancing data accuracy and public awareness for sustainable wetland management. The mission complements national and international conservation goals by promoting local stewardship.

WHY IN NEWS?

Mission Sahbhagita was mentioned as part of India's efforts under Mission LiFE to support the implementation of the resolution on sustainable lifestyles and wetlands conservation adopted at Ramsar CoP15.

Miyawaki Afforestation Technique

The Miyawaki method is a reforestation technique developed by Japanese botanist Akira Miyawaki. It involves planting native tree species densely in a small area to create a fast-growing, self-sustaining forest. This method can grow 10 times faster and create 30 times denser forests than conventional methods. It enhances biodiversity, improves soil quality, and sequesters more carbon dioxide quickly. The technique requires minimal maintenance after initial planting and is effective in urban and degraded lands. Miyawaki forests support local wildlife and help mitigate urban heat islands by increasing green cover rapidly.

WHY IN NEWS?

Agra used the Miyawaki afforestation technique to green 10 acres of reclaimed landfill land, contributing to urban forest development and environmental revitalization efforts.

Molasses Ethanol

Molasses ethanol is ethanol produced by fermenting molasses, a byproduct of sugar production. It is a cost-effective feedstock for bioethanol in India, contributing to the ethanol blending program. Molasses ethanol prices are regulated by the government to ensure fair returns for producers and encourage production. The Union Cabinet recently

approved a price hike for molasses ethanol for the current marketing season to support the biofuel industry and farmers. Molasses ethanol production helps utilize sugar industry waste and reduces environmental pollution from molasses disposal.

Why in news?

The Union Cabinet approved a price hike for ethanol produced from molasses to boost production and support farmers.

Monitoring the Illegal Killing of Elephants (MIKE)

The **Monitoring the Illegal Killing of Elephants (MIKE)** programme is a CITES initiative established to track and reduce elephant poaching across Africa and Asia. It operates at over 70 sites, covering approximately half of the global elephant population. MIKE collects data on illegal killings, which informs policy and enforcement efforts. The programme uses standardized methods for data collection, enabling comparison across regions and time. MIKE's data has contributed to a notable decline in elephant poaching, especially in Africa. It collaborates with governments, NGOs, and local communities to enhance anti-poaching measures and wildlife law enforcement.

Why in news?

MIKE is brought into light for its role in reducing elephant poaching, demonstrating CITES' effectiveness in protecting endangered species amid rising global wildlife trade.

Mycorrhizal Fungi

Mycorrhizal fungi form symbiotic relationships with over **80% of plant species**, aiding nutrient absorption, especially phosphorus. They constitute up to **30% of soil microbial biomass**. These fungi sequester about **13 billion tonnes of CO2 annually**, equivalent to one-third of global fossil fuel emissions. There are three types – ectomycorrhizal (EcM), arbuscular mycorrhizal (AM), and the rare ericoid mycorrhizal (ErM). EcM fungi dominate northern forests, while AM fungi are rich in tropical savannas and forests. Their distribution is poorly mapped, with over **90% of hotspots outside protected areas**, affecting conservation and climate strategies.

Why in news?

The Society for the Protection of Underground Networks (SPUN) launched the Underground Atlas mapping global mycorrhizal fungi distribution, denoting their critical role and the lack of protection in current conservation policies.

Nagamalai Hillock Forest

Nagamalai Hillock Forest is a small forested area located near Nambiyur in the Erode district of Tamil Nadu. It is known for its **biodiversity** including various endemic and migratory bird species. The forest is part of a hillock ecosystem characterized by **rocky terrain and mixed vegetation**. It serves as a habitat for several small mammals, reptiles, and insects. Local conservation groups actively document and monitor the flora and fauna here, contributing to regional ecological studies. The area faces threats from urbanization and deforestation but remains green patch in the region.

Why in news?

Nagamalai Hillock Forest gained attention after the spotting of a rare leucistic laughing

dove by birders in July 2025, emphasizing its ecological importance and biodiversity.

Nallamala Forest Tunneling

The **Nallamala Forest** is a protected forest area in Andhra Pradesh, home to endangered species like tigers and elephants. The Banakacherla project plans to tunnel under this forest to transfer water from the Bollapalli reservoir to Banakacherla. Experts warn tunneling could disrupt soil stability, groundwater flow, and wildlife habitats, threatening ecological balance and indigenous communities dependent on the forest. The forest is part of the Eastern Ghats and plays important role in regional biodiversity and climate regulation.

Why in news?

Environmental concerns over tunneling through the Nallamala Forest have contributed to the Central Environmental Expert Committee rejecting the project's environmental clearance in June 2025.

Namdapha Flying Squirrel

The **Namdapha Flying Squirrel** (Biswamoyopterus biswasi) is a rare and critically endangered rodent endemic to Namdapha National Park, Arunachal Pradesh. It was first described scientifically in 1981 from a single specimen. This species is notable for its large size compared to other flying squirrels and its distinctive reddish-brown fur. It glides between trees using a patagium, a membrane stretched between its limbs. The squirrel inhabits dense subtropical forests at elevations between 2,000 and 3,000 meters. Its population status remains poorly known due to its elusive nature and limited sightings. Habitat loss threatens its survival.

Why in news?

Namdapha National Park, where the flying squirrel is found, was brought into light for its biodiversity and recent sightings of rare species like the white-eared night heron.

National Ambient Air Quality Standards (NAAQS)

The National Ambient Air Quality Standards (NAAQS) are regulatory limits set by the Government of India to control air pollution. They specify maximum permissible concentrations of pollutants like sulfur dioxide, nitrogen oxides, particulate matter, and others in outdoor air. The current SO2 limit is 80 micrograms per cubic meter averaged over 24 hours. NAAQS are periodically reviewed by the Central Pollution Control Board (CPCB) based on scientific studies and health impact assessments. Compliance is monitored through a network of air quality stations across urban and rural areas. These standards guide pollution control measures and environmental policies nationwide.

Why in news?

Recent government studies showed ambient SO2 levels in most Indian cities are well below the NAAQS threshold, supporting the relaxation of FGD installation rules.

National Board of Wildlife (NBWL)

The **National Board of Wildlife (NBWL)** is a statutory body constituted under the Wildlife Protection Act, 1972, responsible for advising the central government on wildlife

conservation and management. It must approve proposals affecting protected areas like sanctuaries and national parks. NBWL meetings include members from government, wildlife experts, and NGOs. The Board's decisions require balancing conservation with developmental needs. In cases of sanctuary denotification or reduction, NBWL mandates compensatory afforestation or equivalent land addition. However, the Board has faced criticism for overlooking legal requirements and compensatory measures, as seen in the Shettihalli Sanctuary case.

WHY IN NEWS?

NBWL approved the reduction of Shettihalli Wildlife Sanctuary's area without ensuring adequate compensatory land addition, violating established norms and Supreme Court directives.

National Mission for Clean Ganga (NMCG)

The National Mission for Clean Ganga (NMCG) is an autonomous body under the Ministry of Jal Shakti, established in 2014 to implement the National Ganga River Basin Authority's directives. It coordinates efforts for pollution abatement, river conservation, and sustainable development in the Ganga basin. NMCG facilitates scientific research, infrastructure development, and stakeholder engagement. It collaborates with institutes like NIH Roorkee and IITs for environmental flow assessments and pollution control technologies. NMCG also promotes community participation and inter-agency coordination to restore the Ganga's ecological health and maintain its cultural and economic significance.

WHY IN NEWS?

NMCG officials attended a key meeting led by Union Minister C.R. Patil to discuss environmental flow assessments and strategies for the Ganga and its tributaries.

New Collective Quantified Goal (NCQG)

The NCQG is a climate finance target agreed under the UN Framework Convention on Climate Change to mobilize funds for developing countries. Its goal is to increase public and private climate finance to support mitigation and adaptation efforts. The 29th Conference of the Parties (COP29) in Baku, Azerbaijan, 2024 saw the NCQG negotiations fail to meet expectations, leaving developing countries without promised financial support. This failure has stalled progress on climate justice and undermined trust between developed and developing nations in climate finance commitments.

WHY IN NEWS?

The failure of the NCQG at COP29 is cited as a key factor worsening the financial outlook for developing countries, discussed at the 2025 FfD4 conference.

NIH Roorkee

The National Institute of Hydrology (NIH) Roorkee is a premier research organization under the Ministry of Jal Shakti focused on hydrological research and water resource management. Established in 1978, NIH Roorkee conducts studies on river basin hydrology, groundwater, and environmental flows. It provides scientific data and technical

support for sustainable water management policies. NIH Roorkee has been instrumental in environmental flow assessments of the Chambal, Son, and Damodar rivers in the Ganga basin, integrating hydrological modeling with ecological requirements to guide river conservation efforts.

Why in news?

NIH Roorkee was approved by the National Mission for Clean Ganga to conduct environmental flow studies for key tributaries of the Ganga as part of a larger sustainable river management initiative.

Nyishi Community

The Nyishi are an indigenous tribal group primarily inhabiting Arunachal Pradesh's East Kameng district. They are known for their traditional forest stewardship and sustainable management of high-elevation ecosystems. The community practices shifting cultivation and maintains deep ecological knowledge passed down through generations. Their cultural identity is closely linked to the Eastern Himalayan environment, influencing local biodiversity conservation. The Nyishi language belongs to the Tibeto-Burman family. Their role in protecting forests has been recognized in scientific studies, and their name was used as an epithet for Begonia nyishiorum to honor their environmental custodianship.

Why in news?

The Nyishi community was acknowledged in the naming of Begonia nyishiorum, denoting their contribution to protecting Arunachal Pradesh's forest biodiversity during recent botanical research.

Oxidative Stress

Oxidative stress occurs when there is an imbalance between the production of **reactive oxygen species (ROS)** and the body's ability to detoxify these harmful compounds. Excess ROS can damage cells, proteins, and DNA, contributing to aging and diseases like dementia. It is a key mechanism by which air pollution, including PM2.5 and soot, contributes to brain inflammation and neurodegeneration. Oxidative stress also plays a role in cardiovascular and respiratory diseases. Antioxidants in the body work to neutralize ROS, but prolonged exposure to pollutants can overwhelm these defenses.

Why in news?

The study marks oxidative stress as a primary biological mechanism linking air pollution exposure to increased dementia risk.

Pale-capped Pigeon

The **Pale-capped Pigeon** (Columba punicea) is a forest-dwelling bird found in parts of Northeast India, Bangladesh, Myanmar, and Thailand. It is classified as **Vulnerable** by the IUCN due to habitat loss and fragmentation. The pigeon is recognized by its ash-grey body and distinctive pale crown. It primarily inhabits dense tropical and subtropical forest canopies, making it elusive and rarely sighted. Its population is believed to be declining, with sightings critical for understanding its distribution and conservation status. The species is sensitive to environmental disturbances and requires intact forest habitats to

survive.

Why in news?

The Pale-capped Pigeon was recently photographed in Dehing Patkai National Park, Assam, marking sighting that marks the species' continued presence in this threatened forest habitat.

Parivesh 2.0

Parivesh 2.0 is an upgraded online integrated environmental management system launched by the Indian Union Environment Ministry. It facilitates faster processing of environmental, forest, wildlife, and coastal zone clearances. The system auto-forwards proposals if essential details are not submitted within three days by state authorities. It supports compliance with Forest (Conservation) Rules, 2022, which mandates disposal of projects covering 5-40 hectares within 120 days and larger projects within 160 days. Parivesh 2.0 aims to enhance transparency, reduce delays, and integrate multiple clearances into a single-window platform for developers and regulators.

Why in news?

New features in Parivesh 2.0 were introduced to fast-track forest clearance applications and improve coordination between central and state authorities.

Plantain Island

Plantain Island is part of the Turtle Islands archipelago in Sierra Leone, historically a key center for trade, agriculture, fishing, and tourism. It features ruins linked to the transatlantic slave trade. The island has suffered decades of land loss due to rising sea levels, with many homes and structures now submerged. The island's mosque has been partially flooded, with its minaret protruding from the water. About 355 schoolchildren attend classes in a building precariously located on an eroding bank. Many residents have been forced to relocate inland, but continued erosion threatens their new settlements.

Why in news?

Plantain Island is in the news due to its rapid environmental degradation, including submerged heritage sites and endangered community infrastructure, underscoring the cultural and social impacts of climate change in Sierra Leone.

PM2.5

PM2.5 refers to particulate matter with a diameter of less than **2.5 micrometres**. These fine particles can penetrate deep into the respiratory system and enter the bloodstream. Major sources include vehicle emissions, thermal power plants, and industrial processes. PM2.5 is linked to various health problems such as respiratory diseases, cardiovascular issues, and now dementia. Its small size allows it to cross the blood-brain barrier, potentially causing **inflammation and oxidative stress** in brain tissue. Monitoring PM2.5 levels is crucial for public health, especially in urban areas with heavy traffic and industrial activity.

Why in news?

PM2.5 was identified in a Cambridge University study as increasing dementia risk by 17% for every 10 μg/m^3 of long-term exposure.

Pong Wetland Sanctuary

The **Pong Wetland Sanctuary** is a man-made wetland created by the Pong Dam, located in Himachal Pradesh. Declared a wildlife sanctuary in 1983, it gained Ramsar site status in 2002, recognizing its international ecological importance. It supports thousands of resident and migratory birds, including exotic species during winter. The sanctuary's ecosystem is fragile, with strict legal protections banning most human and animal activities except regulated fishing. It spans areas like Samkehar, Bathu, and Panalath in the Jawali sub-division. The sanctuary plays important role in biodiversity conservation in northern India.

Why in news?

The sanctuary faces ecological threats from illegal buffalo grazing and nomadic cattle rearers setting up tents inside its protected zone, violating sanctuary norms and legal protections.

Ports Natural Park

Ports Natural Park is a protected natural area spanning parts of the Tarragona and Castellón provinces in Spain. Covering approximately 30,000 hectares, it features rugged mountains, diverse flora and fauna, and important habitats for endangered species like the Iberian lynx and Bonelli's eagle. The park includes Mediterranean forests, rocky cliffs, and river valleys, making it ecological and recreational area. It has been a focus of conservation efforts due to threats from wildfires, human activity, and climate change. The park is a popular destination for hiking, birdwatching, and nature tourism.

Why in news?

Around 30% of the wildfire-affected area in Tarragona lies within the Ports Natural Park, raising concerns about ecological damage and prompting investigations into the fire's origins.

Power Line Corridors

Power line corridors are designated pathways for electricity transmission lines intended to minimize environmental and ecological impact. In Rajasthan and Gujarat, the proposed corridors are **5 km wide** and strategically routed to avoid critical Great Indian Bustard habitats. The corridors aim to reduce the criss-crossing of lines by consolidating power evacuation from renewable projects, such as wind and solar farms. Some existing lines will be rerouted or buried underground based on voltage and proximity to bird habitats. The corridors facilitate east-west connectivity south of Desert National Park in Rajasthan and serve wind farms and 400 kV lines in Kutch, Gujarat.

Why in news?

The committee recommended these corridors to balance the growth of renewable energy infrastructure with the conservation of the Great Indian Bustard, following Supreme Court directives to reduce bird deaths caused by power lines.

Prosopis juliflora

Prosopis juliflora is an invasive woody plant native to Central and South America, now

widespread in Africa, Asia, and Australia. It forms dense thickets, outcompeting native vegetation and altering fire regimes. Its pods serve as a critical dry-season food source for blackbuck (Antilope cervicapra) in semi-arid India, facilitating seed dispersal and germination. This interaction promotes its spread but reduces native forage plants, impacting herbivore diets. The species contributes to woody thickening in savannas, intensifying forest fires and accelerating ecosystem degradation. Controlling Prosopis juliflora is costly and challenging due to its ecological impact and resilience.

WHY IN NEWS?

Prosopis juliflora is mentioned for its role in invasive plant spread and ecosystem disruption in India and other tropical regions, as documented in the recent biodiversity study.

Radio Wave Transmission in Mangroves

Mangrove forests affect the propagation of **radio waves** due to their dense vegetation and saline water environment. The unique structure of mangroves can both absorb and reflect radio frequencies, influencing signal strength and range. This phenomenon is critical for **disaster communication** in coastal regions, where radio waves are essential for rescue and relief operations during cyclones and floods. Studies show that mangroves can enhance low-frequency radio wave transmission by reducing interference, making them natural amplifiers in certain conditions. This property supports emergency communication networks in vulnerable estuarine and coastal zones.

WHY IN NEWS?

The West Bengal Radio Club and Purbasha Eco Helpline Society organized an awareness program on mangroves' role in radio wave transmission and disaster relief communication.

Rajaji Tiger Reserve

Rajaji Tiger Reserve is a protected area in Uttarakhand, established in 1983 and declared a tiger reserve in 2015. It covers over **820 square kilometers** across Haridwar, Dehradun, and Pauri Garhwal districts. The reserve is named after C. Rajagopalachari, India's last Governor-General. It hosts diverse flora and fauna, including Bengal tigers, Asian elephants, leopards, and over 300 bird species. The reserve acts as a wildlife corridor between the Shivalik Hills and the Terai region. It is vital for tiger conservation and biodiversity preservation in the Himalayan foothills.

WHY IN NEWS?

The Mansa Devi temple is located near the Haridwar range of Rajaji Tiger Reserve, situating the stampede incident within a sensitive ecological zone.

Rajiv Gandhi Zoological Park

The Rajiv Gandhi Zoological Park in Pune, spans over 130 acres and houses a variety of fauna including mammals, reptiles, and birds. It is managed by the Pune Municipal Corporation and serves as a conservation and education center. The park includes a snake park and a rescue center for injured wildlife. It was established to promote awareness

about biodiversity and endangered species. The facility also collaborates with veterinary and wildlife research institutions for disease control and animal health monitoring. The park plays a key role in regional wildlife conservation efforts.

Why in news?

The park reported the death of 16 chitals due to Foot and Mouth Disease, prompting involvement of multiple veterinary and research institutions for diagnosis and containment.

Ramsar Wetland City

A **Ramsar Wetland City** is a designation under the Ramsar Convention recognizing urban areas that demonstrate exceptional commitment to wetland conservation and sustainable use. Victoria Falls is one such city, combining its status as a Ramsar Site with urban development and tourism. These cities serve as models for integrating wetlands into urban planning, promoting biodiversity, and supporting local livelihoods. The designation encourages local engagement, innovative restoration techniques, and policies that balance ecological health with economic growth. Ramsar Wetland Cities contribute to global efforts to protect freshwater ecosystems amid increasing urbanization pressures.

Why in news?

Victoria Falls, host city of Ramsar COP15, holds the Ramsar Wetland City status and was brought into light during the conference as an example of urban wetland conservation.

Raorchestes jakoid

Raorchestes jakoid is a newly identified species of bush frog discovered in the Khasi Hills, Meghalaya, specifically in the Lawbah area. It belongs to the Raorchestes parvulus species complex, characterized by unique calls, morphology, and DNA sequences. This frog inhabits bushes and trees near human settlements, showing ecological adaptability. Its name derives from the Khasi word “jakoid,” meaning frog, linking the species directly to local culture. The discovery was confirmed using traditional fieldwork alongside genetic and acoustic analysis. The species’ habitat is vulnerable to rapid landscape changes, denoting conservation concerns in the Indo-Burma biodiversity hotspot.

Why in news?

Raorchestes jakoid was recently discovered and named to honor Khasi culture, spotlighting the region’s biodiversity and the need for habitat conservation in Meghalaya.

River Rejuvenation Project

River rejuvenation projects aim to restore polluted or degraded rivers through cleaning, embankment construction, and ecological restoration. The Pavana River project allocates nearly **80% of its ₹1,500-crore budget** to construction activities such as retaining walls, walkways, and beautification. Such projects often balance flood control, pollution reduction, and public amenities development. Critics argue that excessive infrastructure can harm riverbank ecosystems by disrupting native vegetation and wildlife habitats. Successful rejuvenation requires integrating biodiversity preservation, native species protection, and pollution abatement alongside urban development to maintain ecological

and cultural heritage.

Why in news?

The Pavana River rejuvenation project's design and budget allocation have sparked protests by locals and environmentalists concerned about ecological damage and loss of cultural heritage.

Saint Petersburg Tiger Summit

The **Saint Petersburg Tiger Summit** was held in Russia in 2010 and brought together 13 tiger-range countries to address the critical decline of wild tigers. It resulted in the adoption of the **Tx2 goal** to double tiger populations by 2022. The summit focused on collaborative conservation policies, sharing scientific data, and strengthening anti-poaching laws. Countries represented included India, Bangladesh, Nepal, Bhutan, Malaysia, and Russia. This summit marked the first global political commitment specifically targeting tiger conservation and raised international awareness about the species' endangered status.

Why in news?

The summit's legacy is noted as the foundation for global tiger conservation efforts, with India's recent tiger population growth linked to commitments made there.

Saltwater Crocodile Census

The saltwater crocodile census in Bhitarkanika has shown increase from **about 96 individuals in 1974** to **1,826 in the latest count**. This growth is attributed to conservation measures and habitat protection. The census involves systematic surveys of crocodile nests, basking sites, and water bodies. Saltwater crocodiles are the largest living reptiles, capable of growing over 20 feet, but the census focuses on all age groups to monitor population health. These reptiles play a key role in the ecosystem as apex predators, maintaining balance in aquatic environments.

Why in news?

The recent census data was cited during the rescue operation of a female saltwater crocodile found in a village pond near Bhitarkanika, underscoring population success.

Sarp Mitra

A **sarp mitra** is a self-styled or informal snake rescuer in India, often a volunteer or local individual who rescues snakes from human habitations. They have gained social media popularity by performing daring acts with venomous snakes, sometimes irresponsibly. Many sarp mitras lack formal training or certification, increasing the risk of fatal snakebites. Some states have begun mandating certifications to regulate their activities. The term translates to "snake friend" in Hindi and reflects both reverence and risk associated with their role. Despite their popularity, sarp mitras face criticism for unsafe rescue practices.

Why in news?

Several recent deaths of sarp mitras during snake rescue attempts have brought attention to the dangers of unregulated snake handling and the need for stricter oversight.

Satkosia Tiger Reserve

The **Satkosia Tiger Reserve** is located in Odisha, covering parts of Angul and Boudh districts. It spans over **963.75 square kilometers** and includes the Satkosia Gorge, formed by the Mahanadi River cutting through the Eastern Ghats. The reserve is home to a diverse range of flora and fauna, including tigers, elephants, and the critically endangered gharial crocodile. It was declared a tiger reserve in 2007 under Project Tiger. The area is a confluence of forest types, ranging from dry deciduous to riverine forests. It is also corridor for tiger movement between central and eastern India.

Why in news?

A tender has been floated for a bridge near the Satkosia tiger reserve, raising concerns about ecological damage and lack of necessary clearances from wildlife authorities.

Shettihalli Wildlife Sanctuary

Shettihalli Wildlife Sanctuary is located in Shivamogga district, Karnataka. It was originally notified on **November 23, 1974** under Section 18 of the Wildlife Protection Act. The sanctuary's boundary is defined by natural landmarks like roads, rivers, and ridges. Its officially recorded extent has been disputed, with figures ranging from **395.60 sq km** to over **824 sq km** according to the boundary rationalisation committee. The sanctuary is home to diverse flora and fauna typical of the Western Ghats. The sanctuary's area has recently been subject to controversial reduction proposals without proper legal compliance.

Why in news?

The state government approved reducing the sanctuary's extent from 695.60 sq km, violating Supreme Court orders and Wildlife Protection Act procedures, sparking environmental and legal concerns.

Small and Vulnerable Developing States

Small and vulnerable developing states (SIDS and similar) face disproportionate climate risks despite contributing minimally to global emissions. They often struggle for representation and influence in UNFCCC negotiations due to **limited delegation sizes** and **resource constraints**. These countries have repeatedly voiced concerns about climate justice and the need for increased adaptation finance. They are highly dependent on climate finance for resilience building and disaster risk reduction. Their interests are often overshadowed by larger economies in negotiations. The UNFCCC has mechanisms like the **Least Developed Countries Fund** aimed at assisting them, but challenges remain in ensuring their meaningful participation and adequate support.

Why in news?

Developing countries, especially the most vulnerable, criticized the UNFCCC negotiation process at Bonn and COP30 for ignoring their concerns and failing to deliver climate justice.

Soft Release Bomas

Soft release bomas are **temporary enclosures** used in wildlife reintroduction programs to

acclimatize animals to a new environment before full release. These structures provide shelter, food, and protection, reducing stress and increasing survival chances. They allow animals to adjust gradually to local conditions and prey availability while being monitored. Soft release is especially important for predators like cheetahs, which require adaptation to hunting and territory establishment. The bomas are typically made of natural materials and located within or near the release site to facilitate a smooth transition to the wild.

Why in news?

Gujarat has set up soft release bomas in the Banni grasslands to support the introduction of 10 cheetahs as part of the species' reintroduction program.

Sohra (Cherrapunji)

Sohra, also known as Cherrapunji, is located in Meghalaya, and holds the world record for the highest annual rainfall, receiving **24,555 mm** in 1974. It typically experiences over **11,000 mm** of rain annually, though recent years show a decline to about **8,000-9,000 mm**. Despite its heavy rainfall, Sohra faces water shortages during dry months due to irregular rainfall and increased population pressure. It has grown from around **7,000 residents in 1961** to over **70,000** . The town relies on fragile springs, and water tankers are common to meet demand.

Why in news?

Sohra recorded only one-third of its usual June rainfall in 2025, raising alarms about climate change impacts and water scarcity in the wettest place on Earth.

Soil Carbon Storage in Grasslands

Grasslands store amounts of carbon below ground in their soil, unlike forests which store carbon mainly in biomass above ground. This **soil carbon sequestration** plays important role in mitigating climate change by trapping atmospheric CO2. Healthy grasslands with intact root systems contribute to long-term carbon storage, improving soil fertility and water retention. Disturbance through afforestation or land conversion can release stored carbon, turning grasslands from carbon sinks into carbon sources. Grassland soil carbon storage is often overlooked in climate policies despite its global importance.

Why in news?

The text stresses the ecological value of Indian grasslands, including their role in carbon storage, opposing tree plantation projects that damage these ecosystems.

Sundarbans Delta

The **Sundarbans delta** is the largest tidal halophytic mangrove forest in the world, spanning India and Bangladesh. It covers approximately 10,000 sq km and is home to the Bengal tiger, saltwater crocodile, and numerous fish and bird species. The delta's intricate network of rivers, tidal waterways, and mudflats supports a unique ecosystem that acts as a natural buffer against cyclones and storm surges. It is a UNESCO World Heritage Site and a Ramsar wetland of international importance. The Sundarbans also store blue carbon, playing important role in carbon sequestration and climate change mitigation.

Why in news?

The Sundarbans delta is brought into light as a critical mangrove ecosystem in India's

coastal defense and climate resilience strategy amid increasing environmental threats.

Sundarbans Tiger Reserve (STR)

The Sundarbans Tiger Reserve, located in the delta region of the Ganges, Brahmaputra, and Meghna rivers, spans mangrove forests across India and Bangladesh. It was established in 1973 and is part of the Sundarbans Biosphere Reserve. The reserve is home to the Bengal tiger and is known for its unique mangrove ecosystem. The STR covers an area of 2,585.89 sq km, soon expanding to 3,629.57 sq km. It is the only mangrove tiger habitat globally and supports a complex food web. The reserve includes protected areas, buffer zones, and human settlements. It faces challenges like poaching and human-wildlife conflict.

Why in news?

The STR is set to expand by 1,100 sq km to include three forest ranges in South 24-Parganas, making it India's second largest tiger reserve, pending approval from the National Wildlife Board.

Surla Plateau

The **Surla Plateau** is a lateritic plateau located within the Mhadei Wildlife Sanctuary in Goa. It forms important part of a **tiger corridor** facilitating tiger movement between forest patches. The plateau supports a unique seasonal ecosystem with up to 40% endemic plant species, including the recently described **Dipcadi goaense**. It is covered by laterite, an iron-rich soil type, and plays role in **groundwater recharge** through natural springs and streams. Despite its ecological importance, it faces threats from proposed eco-tourism and development projects that could fragment critical wildlife habitats.

Why in news?

The Surla Plateau is in the spotlight due to environmental concerns over a newly approved eco-tourism resort project within this critical tiger habitat, prompting calls for government protection and reconsideration of development permissions.

Suru Valley

Suru Valley is located in the Kargil district of Ladakh, at altitudes ranging from 2,400 to over 3,200 meters. It is characterized by dense willow thickets, spruce forests, and sheltered glades supporting diverse flora such as Rumex, sea buckthorn, and wild gooseberry. The valley historically supported populations of the Long-billed Bush Warbler and other rare bird species until habitat changes due to agricultural expansion caused declines. The valley's unique ecosystem provides critical habitat for Near Threatened species and is increasingly a focus for conservation and ornithological research.

Why in news?

Suru Valley was the site of the 2025 sighting of the Long-billed Bush Warbler, ending a 46-year gap in confirmed Indian records of the species and denoting the valley's ecological importance.

Tadoba-Andhari Tiger Reserve

The **Tadoba-Andhari Tiger Reserve (TATR)** is located in Chandrapur district,

Maharashtra. It covers an area of approximately **625 square kilometers** and is one of the oldest and largest national parks in Maharashtra. TATR is home to over **100 Bengal tigers**, making it tiger conservation site. The reserve includes dense forests, grasslands, and wetlands, supporting diverse flora and fauna. It was declared a tiger reserve in **1993** under Project Tiger. Rarely known, the reserve also houses the **Andhari River**, which supports the ecosystem, and it is important habitat for species like the Indian gaur and sloth bear.

Why in news?

TATR has installed an AI-based loudspeaker warning system in 20 villages to alert residents about tiger movements, following multiple fatal tiger attacks in the region.

Traditional Knowledge Digital Library (TKDL)

The Traditional Knowledge Digital Library (TKDL) is a digital repository documenting **traditional Indian medicinal knowledge** in multiple languages. It was created to protect indigenous knowledge from biopiracy and facilitate global patent examination processes. TKDL contains over 150,000 formulations from Ayurveda, Siddha, Unani, and other systems, translated into five languages including English. It uses semantic search algorithms to enable easy retrieval and comparison of traditional formulations with modern patents. TKDL serves as a model for preserving cultural heritage while promoting responsible innovation and preventing unauthorized patent claims on traditional knowledge worldwide.

Why in news?

WHO's recent brief praises TKDL as a global model for digitizing and safeguarding traditional medicine knowledge, denoting its integration with AI for semantic analysis and knowledge preservation.

Trayman

Trayman is a critically endangered plant species native to the Western Himalayas, particularly found in the alpine and subalpine zones of Uttarakhand. It is known for its ecological role in stabilizing fragile mountain soils and supporting local biodiversity. The species has medicinal properties traditionally used in Himalayan folk medicine. Overexploitation and habitat loss due to climate change have severely reduced its natural populations. Conservation efforts include propagation in controlled environments and reintroduction into improved soil habitats. Trayman is listed in the IUCN Red List under the "Red Category" for its critical risk of extinction in the wild.

Why in news?

Trayman is part of Uttarakhand's newly launched program to revive 14 critically endangered plant species by replanting them in their natural Himalayan habitats after successful cultivation in research centers.

Triple R Centres

Triple R centres focus on the principles of **Reduce, Reuse, and Recycle** and serve as community hubs for managing waste sustainably. Pune has established 26 such centres where reusable items are collected, sorted, and redistributed to those in need, reducing

landfill waste. These centres promote environmental awareness, support circular economy practices, and provide social benefits by supplying affordable goods. They often collaborate with local NGOs and citizen groups to encourage waste segregation at source and minimize plastic usage. Triple R centres contribute to lowering carbon footprints and encourage community engagement in sustainable urban living.

Why in news?

Pune's establishment of 26 Triple R centres was presented as a successful example of integrated waste management during the national Urban Local Bodies conference.

Tx2 Goal

The **Tx2 goal** was adopted at the 2010 Saint Petersburg Tiger Summit by 13 tiger-range countries aiming to **double the global wild tiger population by 2022**. The initiative focuses on **joint conservation efforts** and **strengthening protection laws**. It marked a unified international commitment to tiger conservation. The goal was inspired by alarming declines, with only about 3,000 tigers left in the wild at the time. Countries involved include India, Bangladesh, Nepal, Bhutan, Malaysia, and Russia. The Tx2 goal serves as a benchmark for measuring progress in tiger population recovery worldwide.

Why in news?

The Tx2 goal is brought into light as India has successfully doubled its tiger population, contributing to this global conservation target by 2024.

UNEP Frontiers Report

The UNEP Frontiers report series is published by the United Nations Environment Programme to show emerging global environmental issues. The series began under the Foresights Trajectory initiative, focusing on forward-looking analysis. The 7th edition, titled "The Weight of Time", addresses the vulnerability of the ageing population to climate change, particularly extreme heat. The reports combine scientific data and policy recommendations to guide international and local environmental action. They emphasize interdisciplinary approaches and often influence UN policy debates. The Frontiers reports are released periodically, each focusing on a specific environmental challenge with global and regional insights.

Why in news?

The 7th UNEP Frontiers report, "The Weight of Time", was released in July 2025, denoting the rising threat of extreme heat to the world's ageing population and projecting increase in heat-related deaths by 2050.

Urban Heat Islands (UHI)

An **Urban Heat Island** (UHI) is an urban arely warmer than surrounding rural regions due to human activities. UHIs form because urban surfaces like concrete and asphalt absorb and retain heat. Factors include rapid urbanization, reduced vegetation, fewer water bodies, and increased vehicular and industrial emissions. In Kashmir, especially Srinagar, urban planning limits green space, exacerbating UHI effects. UHIs cause higher daytime and nighttime temperatures, intensify heat waves, and worsen air quality. They contribute

to the rising temperatures observed in urban areas, independent of broader climatic trends.

Why in news?

Srinagar's urban heat island effect is cited as a key factor in the record-breaking temperatures experienced in Kashmir in 2025, worsening the impact of global warming locally.

Urban Wind Stilling Effect

The Urban Wind Stilling Effect describes the weakening of surface winds in highly urbanized areas due to buildings and infrastructure altering local airflow. This effect creates **zones of atmospheric stagnation that act as invisible barriers**, partially blocking or diverting long-range aerosol pollution from entering cities. It is particularly in cities near dust source regions, such as the Indo-Gangetic Plain, where it reduces aerosol loading inside the city compared to surrounding areas. This effect contributes to the formation of Urban Aerosol Clean Islands and varies seasonally, being most evident during dry, dust-prone periods.

Why in news?

The Urban Wind Stilling Effect was identified as a key factor explaining lower urban aerosol levels in northern Indian cities in a 2025 satellite-based study.

Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980

The Van Adhiniyam, 1980 is an Indian forest conservation law regulating forest land diversion and protection. It mandates obtaining forest clearance before any non-forest use of forest land, especially within protected areas. The Act establishes guidelines for sustainable forest management, afforestation, and penalties for illegal forest activities. It requires environmental and wildlife clearances to be coordinated and is critical in balancing development with conservation. The Van Adhiniyam is frequently invoked in projects affecting ecologically sensitive zones and is a key legal framework in forest governance in India.

Why in news?

NBWL members have demanded the Sharavathi Pumped Storage Project secure approval under this Act before final appraisal due to the project's ecological sensitivity and forest land diversion.

Wandan Mud Volcano

The **Wandan mud volcano** is located in **Wandan Township**, southern Taiwan. It erupted on June 26, 2025, with mud ejected from four vents reaching up to **2 meters** high. Unlike typical volcanoes, it emits cold mud and methane gas, not molten rock. The flames above the mud are intentionally ignited by locals to burn off methane, a potent greenhouse gas. This mud volcano is driven by **high fluid pressures deep underground**, unrelated to magmatic activity. It erupted for about 10 hours, creating a rare spectacle of mud and controlled fire.

Why in news?

The Wandan mud volcano erupted in late June 2025, drawing attention due to its rare mud

and flame display caused by locals igniting methane gas for safety and spectacle.

Wetland Cities Accreditation

The Wetland Cities Accreditation is a designation by the Ramsar Convention recognizing cities that demonstrate effective wetland conservation and sustainable urban development. It encourages cities to integrate wetlands into urban planning and management. Accredited cities commit to protecting wetland ecosystems, promoting biodiversity, and raising public awareness. The program encourages collaboration between local governments, communities, and environmental organizations. Udaipur and Indore became the first Indian cities to receive this accreditation, reflecting their efforts in urban wetland preservation. The accreditation supports sustainable water management, flood control, and climate adaptation in urban areas.

Why in news?

Udaipur and Indore were accredited as Wetland Cities for the first time during Ramsar COP15, marking step in India's urban wetlands conservation efforts.

Wreathed Hornbill

The Wreathed Hornbill (Rhyticeros undulatus) is a large bird native to Southeast Asia and Northeast India, including Dehing Patkai National Park. It is distinguished by its large curved bill and prominent casque. Wreathed Hornbills are frugivorous, playing a key role in seed dispersal and forest regeneration. They nest in tree cavities and exhibit cooperative breeding behaviors. The species is sensitive to habitat disturbance and is listed as **Near Threatened** by the IUCN. Their presence indicates healthy forest ecosystems. Wreathed Hornbills are culturally in some indigenous communities, symbolizing fertility and prosperity.

Why in news?

The Wreathed Hornbill is among the key avian species brought into light in Dehing Patkai's biodiversity, emphasizing the park's ecological significance amid ongoing conservation challenges.

Yellow Fever Vaccine Coverage

Yellow fever vaccine coverage refers to the proportion of at-risk populations immunized against yellow fever, a viral hemorrhagic disease transmitted by mosquitoes. Despite WHO recommendations for at least **80 percent coverage** in endemic areas, global coverage stood at only **50 percent** in 2024. This shortfall increases the risk of outbreaks, especially in Africa and parts of South America. The vaccine provides lifelong immunity after a single dose. Challenges to higher coverage include limited healthcare infrastructure, funding constraints, and vaccine hesitancy. Yellow fever vaccination is a critical component of epidemic preparedness in endemic countries.

Why in news?

The 2024 immunization report brought into light that yellow fever vaccine coverage remains well below targets in at-risk countries, raising concerns about potential outbreaks.

Zero Liquid Discharge (ZLD)

Zero Liquid Discharge (ZLD) is an advanced wastewater treatment process that ensures no liquid waste is discharged into the environment. It involves recycling and reusing all wastewater by treating it through techniques like reverse osmosis, evaporation, and crystallization. ZLD is crucial for industries with high water consumption and pollution potential, such as textiles, to comply with environmental regulations. It helps conserve water, prevent contamination of water bodies, and reduce industrial effluent. The implementation of ZLD systems is capital-intensive but increasingly mandated in India's textile parks to promote sustainable manufacturing.

Why in news?

The PM MITRA Park in Tamil Nadu will include a 15-MLD common effluent treatment plant with zero liquid discharge, denoting the focus on sustainable textile production.

Zographetus mathewi

Zographetus mathewi is a newly identified skipper butterfly species in the family Hesperiidae, endemic to low-elevation forests of Kerala in the Western Ghats. It belongs to the genus Zographetus, making it the 15th species in this oriental group and the fifth recorded in India. It differs from the closely related Z. ogygia by distinct wing venation, genitalia structure, and features such as a basal hair tuft on the forewing underside and yellow-ochre scaling on the hindwing underside. Larvae feed on Aganope thyrsiflora, a leguminous vine. Adult sightings are rare, but larvae and pupae were found in multiple Kerala forest locations.

Why in news?

The species was recently discovered and described by Indian researchers, adding to the biodiversity known from the Western Ghats, a global biodiversity hotspot.

History (India / World) & Culture

Alluri Sitarama Raju

Alluri Sitarama Raju (1897–1924) was an Indian revolutionary leader who led the Rampa Rebellion (1922–1924) against British colonial rule in the tribal areas of Andhra Pradesh. He used guerrilla warfare tactics in the dense forests, leveraging local tribal knowledge. Raju sought to protect tribal rights, promote self-sufficiency, and unify different castes. He became a symbol of tribal resistance and is considered a hero in Andhra Pradesh and Telangana. Raju was eventually captured and executed by the British in 1924. His legacy continues to inspire tribal empowerment movements in India.

Why in news?

The 128th birth anniversary of Alluri Sitarama Raju was celebrated, with Defence Minister Rajnath Singh praising his ideals and linking them to the appointment of Draupadi Murmu as President.

Asthi Kalash

The Asthi Kalash is a sacred relic casket enshrined on the first floor of the Buddha Samyak Darshan Museum. It contains relics of Lord Buddha discovered during archaeological

excavations between **1958 and 1962** in Vaishali. The relic is considered religious artifact for Buddhists and is rarely displayed publicly. The term "Asthi Kalash" literally means "bone urn" and is traditionally used to house remains or relics of revered figures in Indian culture. This relic casket is a focal point of reverence at the new museum.

Why in news?

The Asthi Kalash was installed as a central sacred object in the newly inaugurated Buddha Samyak Darshan Museum and Memorial Stupa, attracting Buddhist pilgrims globally.

Bajirao Peshwa

Bajirao Peshwa (1700–1740) was the prime minister and a military commander of the Maratha Empire. He led 41 battles in 20 years without a single defeat. Bajirao was known for his rapid cavalry movements, strategic acumen, and ability to turn losing situations into victories. He never dismounted from his horse during battles. He commissioned the construction of Shaniwarwada fort in Pune and implemented water management systems. Bajirao is credited with expanding Maratha influence across India and is considered a disciple of **Chhatrapati Shivaji Maharaj**. His leadership helped preserve the concept of 'Swaraj' or self-rule.

Why in news?

A statue of Bajirao Peshwa was revealed at the National Defence Academy (NDA) in Pune to inspire future Indian soldiers, denoting his undefeated military record and dedication to Swaraj.

Baradari Pavilion

A **Baradari** is a pavilion with twelve doors (three on each side) designed to allow free airflow and provide a cool resting place in Mughal gardens and palaces. It was often used for social gatherings, music, and royal audiences. The design promotes ventilation and panoramic views of the surrounding gardens. Baradaris were constructed using traditional materials such as lakhauri bricks and lime mortar. They played role in Mughal architecture as leisure spots and venues for cultural activities. The term "Baradari" comes from Persian, meaning "twelve doors."

Why in news?

The DDA restored a decayed baradari pavilion as part of the Sheesh Mahal restoration project in Shalimar Bagh, using traditional materials to maintain historical authenticity.

Behdienkhlam Festival

Behdienkhlam is a four-day indigenous religious festival celebrated by the Pnar (Jaintia) community in Meghalaya, usually in mid-July after sowing season. The name means to drive away plague or pestilence with sticks. It involves rituals to expel evil spirits, including beating roofs with bamboo poles. Central to the festival are tall, decorated bamboo structures called 'rots,' reaching 30-40 feet, symbolizing social issues. The climax features a tug-of-war for the 'Khnong,' a wooden post. The festival concludes with immersion of the 'Khnong' and 'rots' in the muddy Wah Aitnar pool in Jowai.

Why in news?

The Behdienkhlam festival culminated recently in Jowai, drawing thousands of participants

and officials, including Meghalaya's governor and chief minister, marking an important cultural event for the Jaintia community.

Bhojpuri Chautaal

Bhojpuri Chautaal is a traditional folk music and dance form originating from the Bhojpuri-speaking regions of India, primarily Bihar and eastern Uttar Pradesh. It is performed using a set of small, hand-held wooden cymbals called "chautaal," which produce a rhythmic clapping sound. The songs typically narrate daily life, social issues, and festive occasions, often performed during weddings and cultural celebrations. The dance is characterized by synchronized movements and vibrant expressions. This art form has been preserved by the Bhojpuri diaspora, especially in countries like Trinidad and Tobago, where it serves as a cultural link to Indian heritage.

Why in news?

Bhojpuri Chautaal was performed to welcome Prime Minister Narendra Modi during his first official visit to Trinidad and Tobago, symbolizing the cultural connection between the Indian diaspora and their homeland.

Bidriware

Bidriware is a metal handicraft originating from Bidar, Karnataka, dating back to the 14th century. It uses a **zinc-copper alloy** base coated with a black matte finish achieved through a unique oxidizing process. Fine silver or sometimes gold is inlaid into the surface to create intricate designs, often floral or geometric. The black color is produced by applying a mixture of soil, saltpetre, and other chemicals. Bidriware is known for its **lightweight** nature and **durability**. The craft was traditionally patronized by the Bahmani Sultanate and later the Mughal Empire. It requires multiple stages of polishing and engraving.

Why in news?

PM Modi gifted a pair of Bidriware vases to Ghana's President during his visit, denoting India's artisanal heritage and strengthening cultural ties.

Damin-i-Koh

Damin-i-Koh was a forested area in the Rajmahal hills designated by the East India Company in 1832 for the settlement of the Santhals displaced from Bengal Presidency districts. The British aimed to increase revenue by encouraging settled agriculture in this region. However, the Santhals faced land grabbing and exploitation by zamindars and moneylenders after settlement. Damin-i-Koh became the epicenter of the Santhal rebellion of 1855. It includes parts of present-day Jharkhand and West Bengal and was crucial in the colonial strategy of controlling tribal populations through land allocation and revenue extraction.

Why in news?

Damin-i-Koh is referenced in the context of the Santhal rebellion's origins, as it was the designated settlement area whose oppressive conditions triggered the uprising commemorated in 2025.

Denisovans

Denisovans, identified from a finger bone found in Siberia's Denisova Cave in 2008, diverged from Neanderthals approximately 550,000 to 765,000 years ago. They lived between 300,000 and 25,000–30,000 years ago across parts of Asia, from Siberian cold caves to Southeast Asian tropical forests. Genetic evidence shows they had adaptations such as dark skin, eyes, and hair, and one genome revealed a first-generation hybrid with a Neanderthal mother and Denisovan father. Denisovans contributed to the gene pool of modern humans, especially in Melanesian and Southeast Asian populations, influencing immune and altitude adaptation traits.

Why in news?

Denisovans are brought into light due to recent genetic studies revealing hybridization events and their extensive ecological range, reshaping understanding of ancient human diversity in Asia.

Dharmapuram Adheenam

The **Dharmapuram Adheenam** is one of the oldest Saivite monastic institutions in Tamil Nadu, established in the 16th century. It serves as a center for the propagation of Shaiva Siddhanta philosophy and Tamil Saiva literature. The Adheenam oversees numerous temples and religious activities, including temple restorations and consecrations. The 27th Acharya, a spiritual head, holds religious authority and is involved in major religious ceremonies. The institution also runs educational and cultural programs aimed at preserving Tamil Saiva traditions and supporting community welfare.

Why in news?

The 27th Acharya of Dharmapuram Adheenam participated in the consecration ceremony of the Tiruchendur Subramanya Swamy temple on July 7, 2025.

Dogra Regime

The **Dogra regime** ruled Jammu and Kashmir from 1846 to 1947, established after the Treaty of Amritsar when the British sold Kashmir to Gulab Singh. The Dogras were Hindu rulers governing a Muslim-majority population, which caused ethnic and religious tensions. Their administration was marked by autocratic policies and harsh suppression of dissent, including the 1931 shooting of protestors outside Srinagar Central Jail. The regime maintained British Paramountcy until 1947. The Dogra rulers promoted Dogri culture but faced resistance from Kashmiri Muslims seeking autonomy. Maharaja Hari Singh was the last Dogra ruler before accession to India.

Why in news?

The 1931 killings of protestors by Dogra police are commemorated on Kashmir Martyrs' Day, which has become controversial after the abrogation of Article 370 and changes in Jammu and Kashmir's political landscape in 2025.

Gangaikonda Cholapuram

Gangaikonda Cholapuram was the capital city established by **King Rajendra Chola I** in the 11th century after his victorious expedition to the Gangetic plains. It is located on the

banks of the Kollidam River in Tamil Nadu's Ariyalur district. The city was the political and cultural center of the Chola dynasty for over 250 years. The **Brihadisvara Temple** here rivals the famous temple in Thanjavur. The city's ruins include a large pagoda and remnants of a grand palace, once compared to ancient Babylon. The British dismantled much of its outer wall during 1832 for local construction projects.

WHY IN NEWS?

The 1000th anniversary of King Rajendra Chola I's conquest and the founding of Gangaikonda Cholapuram is being commemorated with a function involving Prime Minister Narendra Modi.

Gavri Festival

The **Gavri** festival is a 40-day ritual performed annually by the Bhil community of Mewar, Rajasthan. It involves troupes traveling to villages where their married female relatives reside, performing **khels**—dance-dramas, songs, and religious ceremonies dedicated to the deity **Gorkhiya Mata**. The festival occurs after the full moon night of Raksha Bandhan in August. Male performers enact female roles due to patriarchal customs. Gavri creates a carnivalesque environment, mixing parody and social critique, temporarily elevating Bhils to divine status before returning to everyday life. Themes include nature worship and historical resistance against invaders like Mughals and the British East India Company.

WHY IN NEWS?

The Gavri festival and its rich cultural heritage are featured in a photo exhibition at the India International Centre Art Gallery, curated by Aditi Mehta and photographed by Sudharak Olwe.

Gingee Fort

Gingee Fort, also known as Senji Fort, is situated in Tamil Nadu and is famed for its unique hilltop fortifications spread over three hills. Constructed initially by the Chola dynasty and later fortified by the Marathas in the 17th century, it includes several temples, granaries, and water tanks. The fort complex covers around 11 square kilometers and is one of the few in India with a well-preserved defense system incorporating multiple layers of walls and moats. Gingee was known as the "Troy of the East" due to its impregnability.

WHY IN NEWS?

Gingee Fort is included in the Maratha Military Landscapes UNESCO World Heritage List, recognized in July 2025 for its strategic military architecture and historical importance.

Girmitiyas

Girmitiyas were indentured laborers from India brought to British colonies like Trinidad between 1845 and 1917. The term derives from the word **"agreement"** (girmit), referring to their labor contracts. They mostly originated from eastern Uttar Pradesh and Bihar. Girmitiyas replaced slave labor after the British abolished slavery in 1834, working primarily on sugar plantations under harsh conditions. Labor agents in India often withheld part of their wages until contract completion, effectively binding them in servitude. Despite hardships, they preserved cultural traditions such as Ramleela,

maintaining their identity in foreign lands through language, religion, and festivals.

Why in news?

Girmitiyas are mentioned in the context of the Indian diaspora in Trinidad and Tobago, denoting their historical role in shaping the island's cultural and social fabric, especially through traditions like Ramleela.

Gorkhiya Mata

Gorkhiya Mata is the principal deity worshipped during the Bhil community's Gavri festival. She is revered as a protective goddess and central to the religious ceremonies performed in her honor. The Bhils consider themselves descendants of Lord Shiva and Goddess Parvati, viewing Parvati as their sister, linking their worship of Gorkhiya Mata to this divine lineage. The goddess embodies feminine grace and power, and the rituals dedicated to her invoke blessings for protection, fertility, and community well-being. The festival's performances end with salutations to Gorkhiya Mata, emphasizing respect for nature and cultural sovereignty.

Why in news?

Gorkhiya Mata is central to the Bhil Gavri festival, which is being introduced to a wider audience through a curated photo exhibition and ethnographic research.

Guru Gorakhnath

Guru Gorakhnath was a prominent yogi and saint of the Nath tradition who lived around the 11th-12th century CE. He is credited with developing Hatha Yoga and is considered a key figure in Indian spiritual history. His teachings emphasize physical and spiritual discipline, combining yoga, meditation, and asceticism. The Nath sect founded by him influenced many religious and cultural movements across northern India. Gorakhnath's legacy includes several monasteries (mathas) and temples, especially in Uttar Pradesh and Bihar. His followers believe in the transformative power of yogic practices for attaining liberation and worldly well-being.

Why in news?

The university inaugurated in Gorakhpur is named after Guru Gorakhnath, reflecting his historical significance in yoga and traditional health sciences.

Hindavi Swaraj

Hindavi Swaraj was the concept and vision of self-rule or independence propagated by **Chhatrapati Shivaji Maharaj** in the 17th century. It represented the aspiration for an autonomous Hindu kingdom free from foreign domination, particularly the Mughal Empire. The term Hindavi refers to the Indian people, and Swaraj means self-governance. Shivaji's establishment of Hindavi Swaraj laid the foundation for the Maratha Empire and inspired subsequent freedom struggles. It was both a political and cultural movement emphasizing governance based on local traditions, justice, and protection of the people's rights.

Why in news?

Hindavi Swaraj was mentioned as the ideological foundation that inspired Bajirao Peshwa and others to continue the fight for Indian independence and self-rule.

Indian Handicrafts in Space

A curated selection of Indian handicrafts designed by students from the National Institute of Design, Ahmedabad, was sent aboard the ISS on the Ax-04 mission. These items represent diverse regional art forms, materials, and craftsmanship from India. They act as cultural ambassadors, celebrating the country's rich artistic legacy and honoring generations of artisans. The handicrafts include textiles, pottery, and metalwork, chosen for their symbolic and aesthetic significance. Their presence in space marks the fusion of science and culture and promotes awareness of traditional Indian arts on a global platform.

Why in news?

Indian handicrafts traveled to the ISS on the Ax-04 mission as a tribute to India's cultural heritage, designed to symbolize the country's artistic diversity in space.

Jyotirlinga Concept

Jyotirlingas are twelve sacred shrines in India where Lord Shiva is worshipped in the form of a fiery column of light. Each Jyotirlinga represents a different manifestation of Shiva and holds immense religious significance in Shaivism. The word Jyotirlinga means radiant sign of Shiva. Trimbakeshwar is unique among them for housing three lingams symbolizing the Hindu Trinity – Brahma, Vishnu, and Shiva. These shrines attract millions of pilgrims annually and are centers of major festivals, especially during the Shravan month, which is considered highly auspicious for Shiva worship.

Why in news?

Trimbakeshwar, a Jyotirlinga temple, was the site of a darshan pass black-marketing scandal exposed in July 2025.

Kalasa (Kalasam)

The **Kalasa** or **Kalasam** is a sacred metal pot used in Hindu rituals, often filled with water from holy rivers like the Ganga. It is decorated with mango leaves, coconut, and cloth, symbolizing abundance and divine energy. The water inside is believed to be purifying and life-giving. The **Kalasa** is used in various ceremonies such as weddings, temple rituals, and festivals to invoke blessings. Metal types vary, including brass, copper, and silver. The pot's shape and decorations differ regionally but consistently signify sanctity and auspiciousness.

Why in news?

PM Modi brought a **Kalasa** containing sacred Ganga water as part of his prayer ritual at the Brihadeeswara temple during his Tamil Nadu visit.

Kanwar Yatra

The **Kanwar Yatra** is an annual Hindu pilgrimage during which devotees, called Kanwariyas, carry sacred water from the Ganges River to offer at Shiva temples. It occurs mainly in July-August during the month of Shravan. The pilgrimage can cover hundreds of kilometers on foot, often in large groups. Participants wear saffron clothes and carry decorated bamboo poles (Kanwars) holding water pots. The Yatra is especially in Uttar

Pradesh, Bihar, and Uttarakhand. Despite its religious fervor, it frequently causes logistical challenges due to massive crowds and road blockages in pilgrimage towns like Haridwar.

Why in news?

The police noted that crowd flow during the stampede was nothing unusual and comparable to large gatherings during Kanwar Yatra, denoting the pilgrimage's impact on local crowd management.

Kargil War Memorial, Drass

The Kargil War Memorial, located in Drass, Ladakh, commemorates Indian soldiers who fought in the 1999 Kargil conflict. It was inaugurated by the Indian Army to honor the **martyrs of Operation Vijay**. The memorial features a wall inscribed with the names of fallen soldiers and a museum detailing the war's events. Drass, one of the coldest inhabited places globally, was a key battleground during the war. The site is strategically located near the Line of Control and serves as a place for annual remembrance ceremonies like Kargil Vijay Diwas. It also educates visitors on the harsh terrain and military challenges faced.

Why in news?

Chief of Army Staff Gen. Upender Dwivedi paid tribute to Kargil martyrs at the Kargil War Memorial in Drass during the 26th Kargil Vijay Diwas, July 26, 2025.

Keeladi Excavation

Keeladi is an ancient urban settlement located in the Sivaganga district of Tamil Nadu, dating back to at least the 6th century BCE. Excavations have revealed evidence of a sophisticated urban culture with well-planned streets, drainage systems, and artifacts such as inscribed potsherds and red-slipped ware with fish motifs. The site has yielded over 500 antiquities in the 10th phase of excavation, indicating continuous habitation and cultural development. Keeladi's findings challenge previous assumptions about the timeline of urbanization in South India. The site is for understanding the Tamil-Brahmi script and early Tamil culture.

Why in news?

The Tamil Nadu State Department of Archaeology sent charcoal samples from the 10th phase of Keeladi excavation for Accelerator Mass Spectrometry dating to establish the absolute chronology of the site's cultural deposits.

Khanderi Fort

Khanderi Fort is a sea fort built by Chhatrapati Shivaji Maharaj in the 17th century, located off the coast of Maharashtra. It was constructed to control naval routes and protect the Maratha Empire from enemy invasions. The fort is noted for its maritime strategic importance and innovative sea-based fortifications. Despite being surrounded by water, it was well-defended and played important role in naval warfare against the British and Portuguese. Khanderi is often paired with its twin fort, Underi, located nearby, together forming a defensive naval base.

Why in news?

PM Modi mentioned Khanderi Fort in July 2025 while commemorating the UNESCO

recognition of Maratha forts, praising its strategic maritime significance and Shivaji Maharaj's military ingenuity.

Khasi Jadoh

Jadoh is a traditional Khasi dish from Meghalaya, consisting mainly of rice cooked with meat, often pork, and local spices. It is a staple food in Khasi households and is culturally , often served during festivals and communal gatherings. The dish reflects the agricultural lifestyle of the Khasi people, using locally sourced ingredients. Its preparation varies by family, but the core ingredients remain consistent. Jadoh represents the Khasi community's connection to their land and heritage. The term was used as a scientific name for a newly discovered frog species, linking biological discovery with cultural identity.

Why in news?

The traditional Khasi dish jadoh lent its name to a newly discovered frog species, symbolizing the bond between Khasi culture and biodiversity conservation.

Khawja Bahaudin Naqashbandi

Khawja Bahaudin Naqashbandi was a revered Muslim saint whose shrine in Srinagar became the burial site for the 22 Kashmiri Muslims killed in the 1931 Dogra police firing. The cemetery at his shrine is known as the 'Martyrs' Cemetery' and serves as a symbolic site for Kashmir's political and religious identity struggles. The Naqashbandi order is a major Sufi spiritual lineage influential in Kashmir. The shrine's cemetery has been a focal point for political commemorations and protests, reflecting the intertwining of religious reverence and political resistance in Kashmir's history.

Why in news?

The Martyrs' Cemetery at Khawja Bahaudin Naqashbandi's shrine is the site of annual Kashmir Martyrs' Day commemorations, which faced restrictions and political conflict in July 2025.

Khuntkhatti System

The Khuntkhatti system is a traditional tribal land tenure practice recognized officially by the Chotanagpur Tenancy Act of 1908. It grants tribal families hereditary rights over land, protecting it from sale or transfer to non-tribals. This system arose partly in response to exploitation during British rule and was strengthened after tribal uprisings like the Munda rebellion. The 1903 Tenancy Act and the 1908 legislation aimed to preserve tribal land ownership and prevent alienation, securing economic and cultural autonomy for tribal communities in the Chotanagpur plateau and surrounding areas.

Why in news?

The Khuntkhatti system is noted as outcome of tribal revolts, including the Munda rebellion, which is discussed alongside the Santhal uprising during the 170th anniversary of the Santhal revolt.

Kolhapuri Sandals

Kolhapuri sandals are traditional handcrafted leather footwear originating from Kolhapur,

Maharashtra. Known for their durability and intricate hand-stitched designs, they use vegetable-tanned leather and are often dyed with natural colors. The sandals have a distinct style featuring a flat sole and a toe ring, reflecting centuries-old artisan techniques. Kolhapuri chappals have geographical indication (GI) status, which legally protects their unique craftsmanship. Despite this, many designs are copied and mass-produced without credit to the artisans. These sandals are culturally and worn both in rural and urban India as casual and festive footwear.

WHY IN NEWS?

Kolhapuri sandals are referenced in the context of a controversy where Prada used their design without credit, denoting challenges faced by Indian artisans in protecting traditional crafts internationally.

Lotus Pond

The **Lotus Pond** is a sacred site located just outside the main enclosure of the Mahabodhi Temple complex to the south. It is associated with the enlightenment of Lord Buddha and is believed to be the place where he meditated after attaining enlightenment. The pond is surrounded by circulating passages at multiple levels and lies approximately 5 meters below the surrounding land level. It is considered one of the seven sacred places within the temple complex, contributing to the spiritual ambiance and pilgrimage significance of Bodh Gaya.

WHY IN NEWS?

The Lotus Pond is part of the Mahabodhi Temple complex, which is governed by the Bodh Gaya Temple Act, 1949, currently under judicial review.

Lower Kollidam Anaicut

The **Lower Kollidam Anaicut** is a dam built across the Kollidam River in 1832 during British rule. Its construction led to the partial demolition of the inner and complete dismantling of the outer walls of the historic Gangaikonda Cholapuram city. Granite sculptures and stone walls from the ancient city were repurposed as building materials for the dam. Local efforts to protect the site were suppressed by colonial authorities. A promised replacement brick wall to restore the damaged structure was never constructed, contributing to the decline of the city's ancient architectural heritage.

WHY IN NEWS?

The Lower Kollidam Anaicut's historical impact on Gangaikonda Cholapuram is brought into light during the millenary celebrations of the city's founding.

Mangarh Massacre

The Mangarh Massacre occurred in 1913 at Mangarh Hills, Rajasthan, where British colonial forces killed hundreds of Bhil tribal people protesting against exploitation and injustice. It is often called the "Adivasi Jallianwala Bagh" due to its similarity to the 1919 Jallianwala Bagh massacre. The movement was led by tribal saint and leader Gobind Guru, who mobilized Bhils for social reform and resistance. The site has remained a symbol of tribal resistance and martyrdom. Despite its historical significance, Mangarh is less

recognized nationally and lacks a dedicated memorial comparable to other freedom struggle sites.

Why in news?

Mangarh is referenced as a historic site linked to the tribal movement supporting the demand for Bhil Pradesh statehood, denoting tribal identity and historical grievances.

Mansa Devi Temple

The **Mansa Devi Temple** is a prominent Hindu shrine located on Bilva hilltop in Haridwar, Uttarakhand. It is considered a **sidhpeeth**, a site where wishes are believed to be granted. The temple is dedicated to Goddess Mansa Devi, an incarnation of Shakti. It attracts thousands of pilgrims year-round. The hilltop is about **1,500 feet above sea level**. Access is via a pedestrian route, a road, and a ropeway installed in **1995**. The temple is near the Rajaji Tiger Reserve. Pilgrims historically used narrow, serpentine paths before the road and ropeway improved access.

Why in news?

A stampede occurred on the pedestrian route to Mansa Devi temple, causing eight deaths and multiple injuries among pilgrims visiting the site.

Maratha Military Landscapes

The **Maratha Military Landscapes** comprise twelve forts built between the 17th and 19th centuries CE, showcasing the Maratha Empire's strategic military planning and architectural innovation. These forts are spread across Maharashtra and Tamil Nadu, including hill forts like Shivneri and Gingee, coastal forts such as Vijaydurg, and island forts like Sindhudurg. They reflect adaptation to diverse terrains—hill, hill-forest, hill-plateau, coastal, and island. Protected by the Archaeological Survey of India and Maharashtra's Directorate of Archaeology and Museums, these forts represent a cohesive military network emphasizing regional defense strategies and cultural continuity of the Maratha period.

Why in news?

The Maratha Military Landscapes of India were inscribed on the UNESCO World Heritage List during the 47th World Heritage Committee Session in 2025, marking India's 44th UNESCO World Heritage property.

Mera Gaon Meri Dharohar (MGMD) Portal

The **Mera Gaon Meri Dharohar (MGMD)** portal is an online platform launched in June 2023 under NMCM to document cultural heritage of India's villages. It currently hosts data on 4.7 lakh villages, covering oral traditions, art forms, festivals, rituals, traditional food, and local landmarks. The portal includes cultural expressions of marginalized communities and lesser-known traditions. It aims to preserve intangible cultural heritage and support rural economies. The portal's data is used for identifying cultural assets and planning preservation efforts. As of now, 41,116 villages in West Bengal are targeted, with 5,917 mapped and data uploaded.

Why in news?

The MGMD portal is brought into light for its large-scale documentation of village-level

cultural heritage and ongoing efforts in West Bengal and other states.

Moids of Charaideo

The **Moids of Charaideo** are ancient burial mounds located in Assam, associated with the Ahom dynasty that ruled from the 13th to 19th centuries. These mounds serve as funerary monuments for Ahom royalty and nobility, reflecting unique burial customs and architectural styles. The site includes several moids with intricate brickwork and earthen structures, symbolizing the Ahom's socio-political and religious traditions. The Moids provide valuable archaeological vital information about the Ahom period's funerary practices and regional history, representing one of the few well-preserved royal burial grounds in Northeast India.

Why in news?

The Moids of Charaideo were inscribed as a UNESCO World Heritage Site in 2024 at the 46th Session of the World Heritage Committee, prior to the Maratha Military Landscapes inscription.

Museum of Rajendra Chola I

The planned **Museum of Rajendra Chola I** will span approximately **10 acres** and is budgeted at ₹22.10 crore. It aims to preserve and showcase artifacts, inscriptions, and historical documents related to the Chola dynasty, particularly the reign of Rajendra Chola I. The museum will provide educational resources and promote tourism, denoting the king's military achievements, administrative reforms, and contributions to Tamil culture and architecture. Preliminary construction work has already begun. The project is part of broader efforts to enhance heritage tourism and cultural awareness in Tamil Nadu.

Why in news?

Preliminary work has started on a ₹22.10 crore museum dedicated to Rajendra Chola I, supporting the state's cultural tourism and historical preservation goals.

Naduvil Nadu

Naduvil Nadu was an ancient territorial division in Tamil Nadu, located between the Thenpennai river to the north and the Vada Vellar river to the south. It functioned as a central division or mandalam within the Tamil region during the Iron Age to Early Historic Period. The area included settlements like Marungur and was for its strategic location between river boundaries. Archaeological evidence suggests a continuous cultural development in this region, with habitation mounds and burial sites indicating established communities. The term Naduvil Nadu is rarely mentioned in mainstream history but is crucial for understanding territorial administration in ancient Tamil society.

Why in news?

Naduvil Nadu is referenced as the ancient territorial division where Marungur, a recently excavated archaeological site, is located, shedding light on its historical significance in Tamil Nadu's heritage.

Nag Panchami Festival

Nag Panchami is a Hindu festival celebrated on the fifth day of the bright half of the lunar

month of Shravan (July/August). It honors the serpent deities, particularly cobras, and involves rituals like offering milk, flowers, and prayers to snake idols or live snakes. The festival is observed across India with regional variations, often linked to fertility, protection, and rain. In some areas, live snakes are worshipped and released, symbolizing respect for nature. Nag Panchami rituals date back to ancient times and are mentioned in Hindu scriptures like the Mahabharata and Puranas.

Why in news?

The festival's traditional live snake worship in Battis Shirala is under discussion for revival after a two-decade ban, denoting tensions between cultural practices and wildlife protection.

National Mission on Cultural Mapping (NMCM)

The **National Mission on Cultural Mapping (NMCM)** is an initiative by the Ministry of Culture, aimed at documenting the country's diverse cultural heritage. It is implemented by the Indira Gandhi National Centre for the Arts (IGNCA). The mission focuses on creating a detailed cultural profile of villages, capturing oral traditions, customs, art forms, festivals, traditional dress, and local landmarks. It includes marginalized communities and lesser-known traditions. The NMCM is part of the larger **Azadi Ka Amrit Mahotsav** celebrations and aims to support rural economic revitalization through cultural preservation. The mission targets 6.5 lakh villages nationwide for mapping.

Why in news?

NMCM is in the news due to the launch and progress of the Mera Gaon Meri Dharohar (MGMD) portal, which has documented 4.7 lakh villages' cultural heritage as of July 2025.

Odantapuri University

Odantapuri University was an ancient Buddhist monastic university located in present-day Bihar, established in the 7th century CE by King Gopala I of the Pala dynasty. It was one of the earliest centers of higher learning in India, alongside Nalanda and Vikramashila. Odantapuri attracted scholars from across Asia, including Tibet, China, and Southeast Asia. The university specialized in Buddhist philosophy, logic, and metaphysics. It was destroyed during invasions in the 12th century but played a critical role in preserving and disseminating Buddhist teachings and Indian knowledge traditions for centuries.

Why in news?

The Vice-President mentioned Odantapuri University as one of the ancient centers of learning during his speech at the Indian Knowledge Systems conference, emphasizing India's historical global intellectual influence.

Operation Vijay (1961)

Operation Vijay was the Indian military operation conducted in December 1961 to liberate Goa, Daman, and Diu from Portuguese colonial rule. The operation lasted about 36 hours and ended over 450 years of Portuguese control. Despite international criticism, India justified the action based on the right to decolonization. Brazil opposed this

operation in 1961, which led to a cooling of Indo-Brazil relations for several decades. Operation Vijay is celebrated annually in India as Liberation Day. The operation involved the Indian Army, Navy, and Air Force, marking India's first major military action after independence.

Why in news?

Brazil's historical opposition to Operation Vijay was noted in the context of India-Brazil diplomatic relations during the 2025 BRICS summit.

Paika Rebellion

The Paika Rebellion of 1817 was an armed uprising against British East India Company rule in Odisha, led by Bakshi Jagabandhu and supported by Kondh tribal fighters. It was triggered by loss of hereditary land, new taxation policies, and British control over salt. The rebels attacked government properties, killed officials, and fought several battles before being suppressed. Bakshi Jagabandhu evaded capture until 1825, when he surrendered under negotiated terms. The rebellion is considered one of the earliest popular uprisings against British rule in India, predating the 1857 revolt by four decades.

Why in news?

The Paika Rebellion's exclusion and later inclusion in NCERT textbooks has sparked political controversy in Odisha, reflecting its symbolic importance in regional identity and nationalism.

Paithani Sarees

Paithani sarees originate from **Paithan**, a town in Maharashtra. They are renowned for their **intricate peacock motifs** on the pallu and **square designs** woven with fine silk threads. Traditionally made with **pure silk** and zari (gold or silver thread), Paithani sarees take several weeks to months to complete. The weaving technique involves **double ikat** patterns, where both warp and weft threads are dyed before weaving. Historically, Paithani sarees were favored by royalty and are considered a symbol of **Maharashtrian cultural heritage**. The craft is passed down through generations of artisans in the Paithan region.

Why in news?

Prime Minister Narendra Modi praised Paithani sarees and artisan Kavita Dhawale from Paithan for preserving this traditional craft and providing employment to women through a handloom production centre.

Porpanaikkottai Site

Porpanaikkottai, in Pudukottai district, is an archaeological site where 11 trenches uncovered 1,792 antiquities including pottery, glass beads, and bangles during the second phase of excavation. The site provides insight into the material culture of the region, showing trade and craft activities. The diversity of artifacts indicates a complex society with connections to wider trade networks. Porpanaikkottai's finds contribute to understanding the post-megalithic cultural phases in Tamil Nadu and the evolution of local craftsmanship and social organization.

Why in news?

Charcoal samples from the second phase of excavation at Porpanaikkottai were sent for AMS dating by the Tamil Nadu State Department of Archaeology to date the cultural layers accurately.

Rampa Rebellion

The **Rampa Rebellion** (1922–1924) was an armed tribal uprising against British rule in the Rampa region of Andhra Pradesh. Led by Alluri Sitarama Raju, it involved guerrilla warfare in forested hilly terrain. The rebellion was triggered by British attempts to impose forest laws restricting tribal access to resources. It united various tribal groups in resistance and challenged colonial authority despite limited weapons. The revolt was eventually suppressed by the British, and Raju was captured and executed. The rebellion remains example of tribal resistance in Indian colonial history.

Why in news?

Discussed as part of the legacy of Alluri Sitarama Raju during his birth anniversary celebration, denoting his fight against British rulers.

Rashtrapati Bhavan Cultural Centre

The **Rashtrapati Bhavan Cultural Centre** is a recently inaugurated venue located within the Rashtrapati Bhavan complex in New Delhi. It serves as a hub for cultural events, exhibitions, and official ceremonies. The centre aims to promote Indian arts, heritage, and cultural diplomacy. It includes auditoriums, galleries, and conference halls designed with modern architecture blending traditional Indian motifs. The centre also hosts educational programs and workshops to encourage cultural awareness. It is one of the few cultural centres directly linked to the official residence of the President of India.

Why in news?

The Rashtrapati Bhavan Cultural Centre hosted the unveiling and flagging off ceremony of the Durand Cup Tournament 2025 trophies by the President of India on July 4, 2025.

Rots Structures

'Rots' are large, colorful bamboo structures, 30 to 40 feet tall, built during the Behdienkhlam festival by the youth of the Jaintia community. They are constructed using bamboo, colored paper, and tinsel. Each group competes to create the tallest and most artistically 'rot,' often depicting current social issues. The 'rots' symbolize community creativity and social commentary. After the festival's rituals, these structures are ceremonially immersed in the Wah Aitnar muddy pool, marking the end of the celebrations and the symbolic cleansing of evil spirits.

Why in news?

The recent Behdienkhlam festival featured the traditional erection and immersion of 'rots' in Jowai, showcasing local artistry and cultural heritage.

Sarvajanik Ganeshotsav

Sarvajanik Ganeshotsav is a public festival originating in Maharashtra in 1893, initiated by Lokmanya Bal Gangadhar Tilak to promote social unity and nationalism. It transformed the private Ganesh Chaturthi worship into a community event to encourage collective

pride and resistance against British colonial rule. The festival involves installing clay or Plaster of Paris idols of Lord Ganesha in public spaces for worship, followed by immersion in water bodies. It symbolizes Maharashtra's cultural identity and social cohesion. The tradition emphasizes values like freedom, self-respect, and pride in the Marathi language, continuing as a major cultural event in India.

WHY IN NEWS?

The Maharashtra government declared Sarvajanik Ganeshotsav as the official state festival, emphasizing its cultural importance and supporting its celebration with government resources and protection against legal challenges.

Sarvepalli Radhakrishnan

Sarvepalli Radhakrishnan was an Indian philosopher and statesman who served as the **second President of India from 1962 to 1967**. He was also the first Vice President of India (1952–1962). His birthday, **September 5**, is celebrated as Teachers' Day in India. Radhakrishnan was a prominent academician, known for interpreting Indian philosophy for the Western world. He held the position of Vice-Chancellor at Andhra University and Banaras Hindu University. He was awarded the Bharat Ratna, India's highest civilian award, in 1954. Radhakrishnan's writings emphasized the harmony between religion and philosophy.

WHY IN NEWS?

The Andhra Pradesh government named a new school kit scheme after Sarvepalli Radhakrishnan to honor his educational legacy and avoid political symbolism in education initiatives.

Shikara Race

A **shikara** is a traditional wooden boat found on Dal Lake in Srinagar, used primarily for transport and tourism. The shikara race is a competitive sport where participants navigate these boats through the lake, showcasing rowing skills and boat control. Shikaras are carved from cedar wood, painted in bright colors, and often decorated with cushions and canopies. This race is unique to the Kashmir region and integrates local cultural heritage with sports. The shikara race promotes tourism and preserves the boat-making craft, which faces challenges due to modern transportation alternatives.

WHY IN NEWS?

The shikara race is included as a competitive event in the first Khelo India Water Sports Festival at Dal Lake.

Sohrai Art

Sohrai Art is a traditional mural painting practiced by tribal women in Jharkhand, primarily during harvest and festive seasons. It uses **natural earth pigments** and bamboo brushes to create vivid depictions of animals, plants, and geometric motifs on mud walls. The art is deeply connected to agrarian life and spiritual beliefs, symbolizing fertility and prosperity. Originating from the Hazaribagh district, it reflects the community's reverence for nature and mythology. The practice is ritualistic, passed down through generations, and remains

largely confined to tribal households, with limited national exposure compared to other Indian folk arts.

Why in news?

Sohrai Art was showcased at the Kala Utsav 2025 – Artists in Residence Programme at Rashtrapati Bhavan, gaining national recognition and denoting Jharkhand's tribal cultural heritage.

Sri Dharmasthala Manjunatheshwara Temple

The Sri Dharmasthala Manjunatheshwara Temple is a prominent pilgrimage site in Dakshina Kannada, Karnataka, dedicated to Lord Manjunatha, a form of Shiva. It is unique for its administration by the Jain community, despite being a Hindu temple. The temple is known for its annual Hunnime festival and its tradition of offering free meals (Anna Dana) to thousands daily. It also runs a charitable hospital and educational institutions. The temple's management follows a centuries-old practice of communal harmony, blending Hindu and Jain customs, which is rare among Indian temples.

Why in news?

The temple is in the news due to the formation of a Special Investigation Team (SIT) to probe allegations of mass secret burials of unidentified bodies on its premises.

Taiga Tiger Cult

The Taiga tiger cult is a spiritual belief system among indigenous Siberian peoples like the Udege, Nanai, and Oroch, centered on the Amur tiger as a powerful totemic animal. Tigers, called "masters of the taiga," are believed to command other animals and guide hunters by revealing vulnerable spots. Shamans play a key role, shape-shifting into tigers to communicate with deities. The tiger is considered a high judge teaching laws, and its name is often avoided, replaced by euphemisms such as puren ambani ("dangerous spirit of taiga"). Killing a tiger is taboo, reflecting deep spiritual respect.

Why in news?

The Taiga tiger cult's unique beliefs show the spiritual bond between indigenous Siberian peoples and the Amur tiger, relevant on International Tiger Day and wildlife conservation discussions.

Tamil Brahmi Potsherds

Tamil Brahmi potsherds are inscribed pottery fragments bearing Tamil Brahmi script, dating back to the 2nd or 3rd century BCE. These potsherds were often placed as grave goods in urn burials and provide some of the earliest evidence of written Tamil. The inscriptions typically include names or short words, such as a-ti-y(a)-ka-n and a-ma-ṉ. Such finds are rare in Tamil Nadu and help establish the antiquity of Tamil literacy. The potsherds have paleographic significance, helping scholars trace the evolution of Tamil script and language. They are crucial for understanding the socio-cultural and linguistic history of early Tamil communities.

Why in news?

Tamil Brahmi potsherds with inscriptions were discovered at the Marungur urn burial site, marking archaeological find in Tamil Nadu's early historic period studies.

Tarakaasi Silver Filigree

Tarakaasi is a traditional silver filigree craft from Cuttack, Odisha, practiced for over 500 years. It involves twisting fine silver wires into delicate motifs like flowers and vines, then soldering them onto silver sheets or frameworks. The technique requires extreme precision and patience, often taking weeks to complete a single piece. Tarakaasi is used to create jewelry, decorative items, and religious artifacts. The craft combines **artistic finesse** with **structural delicacy**, making it both ornamental and lightweight. It has been historically supported by royal patrons and remains cultural symbol in Odisha.

Why in news?

PM Modi presented a silver filigree purse made with Tarakaasi work to Ghana's First Lady, showcasing India's rich tradition of silver craftsmanship.

Tirumalapuram Megalithic Burials

Tirumalapuram in Tenkasi district is notable for the discovery of a stone slab chamber with urn burials, marking the first such find in Tamil Nadu. Megalithic burials typically date from 1000 BCE to 300 CE and are associated with complex funerary practices. Urn burials involve placing human remains in ceramic urns, often accompanied by grave goods, reflecting beliefs about the afterlife. The stone slab chamber suggests advanced burial architecture and social stratification. Tirumalapuram's burials add to the understanding of megalithic culture in South India and its regional variations.

Why in news?

The Tamil Nadu State Department of Archaeology sent charcoal samples from Tirumalapuram's megalithic burial site for AMS dating following the discovery of the stone slab chamber with urn burials during recent excavations.

Tiruvalangadu Copper Plates

The Tiruvalangadu Copper Plates are a set of inscriptions issued during the Chola dynasty that record the achievements and grants of King Rajendra Chola I. These plates provide historical evidence of his northern military campaigns and administrative activities. They also document the construction of infrastructure like tanks and temples. Copper plates were commonly used in South India for royal decrees due to their durability. The Tiruvalangadu plates are valuable for understanding Chola history, genealogy, and territorial expansion during the 11th century CE.

Why in news?

The Tiruvalangadu Copper Plates are cited as the historical source confirming the construction of the Chola Gangam tank by Rajendra Chola I, referenced in the recent development announcement.

Tribal Language Documentation

Documentation of endangered tribal languages involves systematic recording of dialects, vocabulary, and oral traditions with the help of local communities and linguists. This process includes **audio-visual recordings**, compiling dictionaries, and printing books on tribal folklore and oral histories. Many tribal languages in India are at risk of extinction

due to declining native speakers. Preservation efforts by ZCCs and language experts aim to revitalize these languages by integrating documentation into educational and cultural programs. This work supports cultural identity and linguistic diversity, ensuring that tribal languages continue to be studied and passed on to future generations.

Why in news?

ZCCs are actively engaged in recording and documenting endangered tribal languages as part of a nationwide initiative to preserve India's cultural and linguistic heritage.

Vajrasana (Diamond Throne)

The **Vajrasana**, or Diamond Throne, is a stone slab located inside the Mahabodhi Temple complex marking the exact spot where Lord Buddha attained enlightenment under the Bodhi tree. It is a symbol of spiritual power and purity in Buddhist tradition. The Vajrasana was established by Emperor Ashoka in the 3rd century BCE and has been a focus of pilgrimage ever since. The slab is intricately carved with lotus motifs and inscriptions. It is surrounded by protective railings and is central to the temple's religious rituals and ceremonies.

Why in news?

The Vajrasana is part of the Mahabodhi Temple complex, which is under the governance of the Bodh Gaya Temple Act, 1949, currently under legal scrutiny.

Wedge-shaped Bricks in Circular Kilns

Wedge-shaped bricks are specially shaped bricks used to construct circular kilns and walls in Harappan settlements. This architectural feature appears at sites such as Kanmer (Gujarat), Mohenjo-daro (Pakistan), and now Ratadiya Ri Dheri (Rajasthan). Circular kilns with central columns were used for firing pottery and terracotta objects. The bricks' wedge shape allowed for the curved kiln structure. This design reflects advanced construction techniques and standardization across the Indus Valley civilisation during its mature phase (2600-1900 BCE).

Why in news?

Wedge-shaped bricks used in circular kilns were found at Ratadiya Ri Dheri, linking the site architecturally to other major Harappan urban centers and confirming its cultural affiliation.

William Claxton Peppé

William Claxton Peppé (1845–1930) was a British civil engineer and archaeologist known for discovering the Piprahwa relics in 1898. He was stationed in India during the British colonial period and conducted excavations in the Terai region of Uttar Pradesh. Peppé's excavation uncovered a large stupa containing ancient Buddhist relics, which he documented and partially transferred to the Indian Museum. His work contributed to the understanding of early Buddhist history and archaeology. Peppé's family retained some relics, which were later taken abroad, leading to modern repatriation efforts.

Why in news?

Peppé is mentioned as the original discoverer of the Piprahwa relics, which were recently returned to India after being held by his descendants.

Science & Technology

2i/Borisov

2i/Borisov is the second confirmed interstellar comet, discovered in 2019. It originated outside our solar system and travels on a hyperbolic trajectory, indicating it will not return. The comet contains ice, dust, and rock, similar to solar system comets, but formed in a different cosmic environment. It was ejected from its original star system due to gravitational interactions and has traveled through interstellar space for millions or billions of years. Its high speed and unusual orbit allow scientists to study material from beyond our solar system, providing vital information about planetary system formation elsewhere in the galaxy.

Why in news?

2i/Borisov is referenced as the first confirmed interstellar comet before the discovery of 3i/Atlas in July 2025, denoting the rarity of such objects entering our solar system.

3GPP (3rd Generation Partnership Project)

3GPP is a global standards organization that develops protocols for mobile telecommunications, including 3G, 4G LTE, 5G, and emerging 6G technologies. Formed in 1998, it unites seven telecommunications standard development organizations worldwide. 3GPP's work covers radio access, core network, and service architecture. It plays a critical role in enabling interoperability and global adoption of mobile technologies. India's participation in 3GPP influences the country's telecom standards and innovation. The organization's releases define new features, performance improvements, and security protocols for cellular networks globally.

Why in news?

The Government of India emphasized greater participation in international standards bodies like 3GPP during the launch of SAKSHAM-3000, aiming to boost India's role in shaping future telecom standards.

3I/ATLAS

The designation **3I/ATLAS** identifies the third confirmed interstellar object detected passing through our solar system. It follows **1I/'Oumuamua** and **2I/Borisov**. The "3I" denotes the third interstellar object, while "ATLAS" refers to the survey system responsible for its discovery. This comet originated outside the solar system and was first observed on July 1, 2025. Its trajectory came from the constellation Sagittarius. At discovery, it was approximately 670 million kilometres from Earth. The comet's orbit ensures it will not come closer than **1.6 astronomical units** to Earth, posing no impact risk.

Why in news?

3I/ATLAS was recently discovered by the ATLAS telescope in Chile, marking the third interstellar object detected in our cosmic neighborhood.

AdFalciVax

AdFalciVax is an indigenous recombinant chimeric malaria vaccine candidate developed in India targeting **Plasmodium falciparum**, the parasite causing the deadliest malaria form.

It focuses on two critical stages of the parasite's lifecycle to both prevent human infection and reduce vector-borne transmission. Developed by the Indian Council of Medical Research (ICMR) and the Department of Biotechnology-National Institute of Immunology (DBT-NII), it is the first multi-stage malaria vaccine from India. Currently in preclinical development, AdFalciVax aligns with the **Make in India** initiative and plans for non-exclusive licensing to promote broad manufacturing and distribution.

Why in news?

India announced progress in developing AdFalciVax, a novel malaria vaccine candidate aimed at preventing infection and limiting community transmission, currently in preclinical stages with plans for widespread licensing.

Altermagnets

Altermagnets are a newly identified class of magnetic materials that exhibit magnetic order without net external magnetism. Unlike ferromagnets, which have uniform magnetic moments, or antiferromagnets, which cancel out magnetism, altermagnets have alternating spin patterns that create unique electronic behaviors. Their electron spin arrangements enable large spin-splitting effects useful in spintronics, manipulating electron spin rather than charge. Altermagnets combine the advantages of ferromagnets and antiferromagnets, potentially enabling faster, more efficient electronic devices. The discovery of altermagnets is recent, and they are still being explored for practical applications in future technologies.

Why in news?

Altermagnets have been in the spotlight due to the discovery of novel electrical and thermal transport phenomena in chromium antimonide (CrSb), an altermagnetic material, which could revolutionize electronic device design.

Amplify Initiative

The **Amplify Initiative** is a Google-led project aimed at enhancing AI models' sensitivity to linguistic and cultural diversity. Initially piloted in Sub-Saharan Africa, it produced an annotated dataset with over 8,000 queries in seven African languages, created by 155 experts. The initiative focuses on building localized datasets to improve AI's understanding of regional nuances in language, culture, healthcare, and safety. In India, it collaborates with IIT-Kharagpur to develop datasets in multiple Indic languages, addressing the country's vast cultural plurality. Amplify aims to make Large Language Models more contextually relevant and responsive to diverse human experiences.

Why in news?

Google DeepMind and IIT-Kharagpur are collaborating on the Amplify Initiative to build culturally rich datasets for Indian languages, enhancing AI's cultural and linguistic awareness.

Artificial Intelligence in Train Safety

Artificial Intelligence (AI) applications in train safety include predictive maintenance, anomaly detection, and automated monitoring systems. AI analyzes large data sets from

sensors and cameras to identify potential faults before they cause failures. Machine Learning models improve over time by learning from past incidents and operational data. AI-driven systems can provide real-time alerts and decision support to railway operators, reducing human error and increasing efficiency. These technologies contribute to safer, more reliable train operations and are increasingly integrated into modern railway networks worldwide.

Why in news?

Indian Railways is adopting AI-based inspection systems as part of a new initiative to improve safety and maintenance efficiency on freight corridors.

Asteroid Terrestrial-impact Last Alert System (ATLAS)

The **Asteroid Terrestrial-impact Last Alert System (ATLAS)** is a network of telescopes designed to detect near-Earth objects (NEOs) that might pose an impact threat. Funded by NASA, it operates multiple telescopes worldwide, including one in Rio Hurtado, Chile. ATLAS scans the sky every night for moving objects, providing early warnings. It was instrumental in discovering 3I/ATLAS and identifying earlier observations from June 14. The system can detect objects as small as 30 meters in diameter, providing critical data for planetary defense efforts.

Why in news?

ATLAS discovered the interstellar comet 3I/ATLAS and contributed archived data confirming its earlier sightings.

Automatic Identification System (AIS)

AIS is a maritime tracking system that automatically transmits a ship's identity, position, course, and speed to other vessels and coastal authorities. It uses VHF radio frequencies and GPS data to enhance situational awareness and prevent collisions. AIS data is also used for traffic monitoring and maritime security. However, AIS is vulnerable to GPS spoofing, which can cause ships to display false positions, as in the 2017 Novorossiysk incident where multiple vessels appeared miles inland. AIS is mandatory for large commercial ships and is integrated with navigation and collision avoidance systems worldwide.

Why in news?

AIS was compromised during recent GPS spoofing attacks disrupting maritime navigation near strategic ports, denoting vulnerabilities in maritime safety systems.

BHARAT Study

The BHARAT study, initiated by the Indian Institute of Science (IISc), Bengaluru, focuses on identifying biomarkers of healthy aging, resilience, adversity, and transitions in the Indian population. It collects genomic, proteomic, metabolic, environmental, and lifestyle data to build a comprehensive database. The study aims to establish the "Bharat Baseline," a reference standard for normal biomarker ranges specific to Indians. It addresses gaps caused by reliance on Western biomarker standards, which may misdiagnose or inadequately treat Indian patients. BHARAT integrates AI and machine learning to analyze

complex datasets and predict age-related health changes for personalized interventions.

Why in news?

BHARAT was launched recently to map physiological and molecular indicators of aging in India, aiming to create population-specific biomarkers and improve healthcare outcomes for aging Indians.

BIRAC

The **Biotechnology Industry Research Assistance Council (BIRAC)** is a public sector enterprise under India's Department of Biotechnology (DBT). It was established to support and nurture innovative biotech startups and small enterprises through funding, mentorship, and industry partnerships. BIRAC plays a key role in bridging the gap between academia and industry by facilitating translational research and commercialization of biotech innovations. It promotes inclusive growth by supporting region-specific innovation missions and pilot manufacturing projects. BIRAC's initiatives have contributed to the growth of India's biotech ecosystem from about 50 startups a decade ago to nearly 11,000 .

Why in news?

BIRAC was prominently mentioned during the World Bioproduct Day event for its role in operationalizing the BioE3 Policy and encouraging startup-industry collaborations in India's biotechnology sector.

C-Reactive Protein (CRP)

C-Reactive Protein is a biomarker indicating inflammation in the body. Elevated CRP levels are linked to a higher risk of cardiovascular events like heart attacks. Research comparing HFCS and cane sugar consumption found that HFCS intake correlates with **higher CRP levels**, suggesting increased inflammation. CRP is produced by the liver in response to inflammation. It is widely used in clinical settings to assess risk for heart disease and monitor inflammatory conditions.

Why in news?

CRP levels were brought into light in a 2022 meta-analysis showing subtle health differences between HFCS and cane sugar consumption amid the sugar debate.

Chandrayaan-3

Chandrayaan-3 is India's third lunar exploration mission, launched by the Indian Space Research Organisation (ISRO) in 2023. It successfully accomplished a **soft landing near the lunar south pole**, making India the first country to land in this region. The mission consists of a lander and a rover but no orbiter, using Chandrayaan-2's orbiter for communication. Chandrayaan-3's objectives include studying the lunar surface composition, seismic activity, and temperature variations. The mission demonstrated India's cost-effective space technology with a budget under $100 million, lower than many other lunar missions.

Why in news?

Chandrayaan-3's success is celebrated during International Moon Day 2025, denoting India's achievements in lunar exploration.

Chronic Traumatic Encephalopathy (CTE)

Chronic Traumatic Encephalopathy (CTE) is a progressive neurodegenerative disease caused by repeated head trauma. It was first identified in boxers and later found in athletes from football, hockey, and military veterans. Symptoms include depression, aggression, memory loss, confusion, and impaired judgment. Diagnosis can only be confirmed post-mortem by detecting abnormal tau protein deposits in the brain. CTE can develop years after repeated concussions or sub-concussive hits. The disease worsens over time, often leading to severe cognitive and motor impairments. There is no cure, and prevention focuses on reducing head injuries in contact sports and military settings.

Why in news?

CTE was cited in a suicide note by Shane D. Tamura, the suspected gunman in the 2025 Midtown Manhattan shooting, linking his mental health struggles and violent actions to the disease caused by repeated head injuries from football.

Cold Chain Integrity

Cold chain integrity is the process of maintaining a continuous temperature-controlled supply chain for temperature-sensitive products like blood and vaccines. For blood products, the temperature must be strictly controlled between 2-6°C from collection to transfusion to preserve functionality and prevent bacterial contamination or haemolysis. Cold chain breaches can compromise blood safety and efficacy. Technologies like insulated packaging, temperature monitors, and validated transport conditions are used to maintain cold chain integrity. In drone transport, this requires specialized containers and real-time monitoring to ensure compliance with regulatory standards for blood banks and transfusion services.

Why in news?

Cold chain integrity is critical in the new drone delivery method tested by ICMR to ensure blood components remain viable during rapid transport across diverse Indian terrains.

Deep-Brain Stimulation Device

The deep-brain stimulation device consists of implanted electrodes connected to a pulse generator, often implanted under the skin near the upper chest. The device delivers controlled electrical impulses to targeted brain areas to modulate abnormal neural activity. It is programmable and adjustable externally, allowing customization of stimulation patterns. The device is similar in size and function to a cardiac pacemaker and is rechargeable or battery-operated depending on the model. It is designed to be reversible and minimally invasive compared to lesioning surgeries. The device's development began in the late 20th century, with FDA approval for Parkinson's disease treatment granted in 1997.

Why in news?

The device is central to the medical technique of deep-brain stimulation, which is increasingly used for movement and psychiatric disorders as discussed in the text.

Department of Science and Technology (DST)

The Department of Science and Technology (DST) is a central government agency in India responsible for promoting new areas of science and technology and coordinating scientific research. DST provides funding to various institutions, including State S&T Councils, though its contribution to state councils is a small fraction of their total budgets. DST supports project-based grants across ministries and departments but has been criticized for the limited core grant support to state-level bodies. It plays a key role in shaping national science policies and encouraging innovation ecosystems through research funding and international collaborations.

Why in news?

DST's funding strategy for State S&T Councils is under review following NITI Aayog's recommendation to reduce core grants and promote project-based funding to enhance accountability and impact in state-level scientific research.

Dual Intelligence

Dual Intelligence refers to the synergistic integration of human judgment with artificial intelligence systems to enhance decision-making and productivity. This concept emphasizes augmenting rather than replacing human capabilities, combining machine precision with human creativity and ethical reasoning. It supports scalable and inclusive innovation by leveraging AI's data processing power alongside human contextual understanding. Dual Intelligence is applied in enterprise data analysis, workforce enablement, and ethical AI deployment. It is seen as a future framework for responsible AI adoption that balances automation with human oversight to maximize value and minimize risks in diverse industries.

Why in news?

Dr. Ganesh Natarajan mentioned Dual Intelligence on AI Appreciation Day as a key paradigm for achieving scalable, ethical, and inclusive AI-driven innovation.

Gaganyaan Crew Module

The **Gaganyaan crew module** is part of India's first manned spaceflight program developed by ISRO. It is designed for sea landings, employing splashdown recovery in the Indian Ocean. The module is conical in shape with a rounded metal base to float and absorb impact shocks during water landings. It lacks complex landing legs or vertical landing systems, favoring simplicity and cost-effectiveness. The module is engineered to withstand re-entry speeds exceeding 27,000 km/h and uses parachutes for deceleration. Gaganyaan aims to send Indian astronauts to low Earth orbit, marking India's entry into human spaceflight.

Why in news?

ISRO's Gaganyaan crew module design is brought into light for its sea landing approach, similar to the recent Axiom-4 splashdown.

Gamma Radiation Aerial Surveillance System

The **Gamma Radiation Aerial Surveillance System** is designed to detect and map

gamma radiation levels from airborne platforms. It uses advanced sensors capable of identifying radioactive sources over large areas quickly. The system integrates GPS for precise location tracking and real-time data transmission to ground stations. It is primarily used for monitoring nuclear safety, detecting radiological threats, and environmental radiation assessment. The technology enhances rapid response capabilities during nuclear or radiological emergencies. It is lightweight and adaptable to various aircraft, including drones and helicopters, making it versatile for military and civilian applications.

WHY IN NEWS?

Handed over by DRDO to the Indian Navy as part of six strategic indigenously developed products for enhanced radiation monitoring and surveillance capabilities.

Geostationary Transfer Orbit (GTO)

A Geostationary Transfer Orbit (GTO) is an elliptical orbit used to transfer satellites from low Earth orbit to geostationary orbit. Satellites launched into GTO use onboard propulsion to circularize their orbit at approximately **36,000 km altitude** above the equator. This orbit allows satellites to maintain a fixed position relative to Earth's surface, providing continuous coverage over specific regions. GTO is a standard intermediate step for communication satellites like Dror-1, enabling efficient fuel use and precise orbital insertion. The orbit's perigee is typically low Earth altitude, while the apogee aligns with geostationary height.

WHY IN NEWS?

Dror-1 was initially inserted into a GTO by the Falcon 9 rocket before maneuvering to its final geostationary orbit, a critical phase in its deployment.

Global Virus Network (GVN)

The **Global Virus Network (GVN)** is a coalition of human and animal virologists from over 40 countries, established to strengthen research and responses to viral threats. It was co-founded by Robert Gallo, a prominent virologist. GVN focuses on pandemic preparedness, viral outbreak surveillance, and accelerating vaccine development. It operates Centers of Excellence globally, including the Galveston National Laboratory. The network facilitates collaboration among scientists to address emerging and re-emerging viral diseases and supports public health infrastructure improvements. GVN also advocates for vaccination and rapid response to outbreaks to prevent global spread of contagious viruses like measles.

WHY IN NEWS?

GVN scientists have issued warnings about the global surge in measles cases due to declining vaccination rates, denoting the threat to public health progress and urging immediate vaccination efforts worldwide.

GLP-1 Receptor Agonists

GLP-1 receptor agonists are a class of drugs that mimic the glucagon-like peptide-1 hormone, which regulates appetite and insulin secretion. Examples include **semaglutide** and **liraglutide**. These drugs slow gastric emptying and promote satiety, leading to

reduced food intake. They are used in obesity and type 2 diabetes treatment. Weight regain after stopping GLP-1 drugs tends to be higher compared to other anti-obesity medications. These drugs are injectable and require careful dosing to maintain effects. Their mechanism involves central nervous system pathways and pancreatic beta-cell stimulation.

Why in news?

GLP-1 receptor agonists were brought into light in a recent study showing that weight regain after discontinuation of these drugs is more pronounced than with other anti-obesity medications.

GPS Spoofing

GPS spoofing is a cyber-attack technique where false GPS signals are transmitted to deceive receivers into accepting incorrect location or time data. Unlike jamming, which blocks signals, spoofing manipulates navigation systems to show erroneous positions. This can cause aircraft to misjudge locations, increasing collision risks, and ships to run aground or collide. Spoofing incidents surged globally, with a 350% increase reported in the Red Sea in early 2025. The first large-scale spoofing attack was recorded near Novorossiysk Port, Russia, in 2017, where ships' AIS showed false inland positions. Spoofing affects military and civilian systems and is used in electronic warfare.

Why in news?

GPS spoofing caused recent disruptions to flights and maritime navigation in conflict zones like the Persian Gulf, Red Sea, and Eastern Europe, raising security concerns.

Group Captain Shubhanshu Shukla

Group Captain Shubhanshu Shukla is an Indian Air Force officer selected for the Axiom-4 mission, marking milestone in India's human spaceflight efforts. He is trained in astronautics and space operations, representing India in a commercial spaceflight context. Shukla carries symbolic Indian handicrafts designed by students from the National Institute of Design, Ahmedabad, to the ISS. His participation provides practical experience in international crew collaboration and space mission protocols. Shukla's mission supports ISRO's Gaganyaan program and serves as a cultural ambassador by showcasing India's artistic heritage in space.

Why in news?

Group Captain Shubhanshu Shukla is part of the Axiom-4 mission, bringing expertise and cultural artifacts to the ISS, aiding ISRO's human spaceflight preparations.

Hanle Dark Sky Reserve

The **Hanle Dark Sky Reserve** is one of the highest astronomical observatories in the world, located in the Changthang region of Ladakh at an altitude of about 4,500 meters. It benefits from extremely low atmospheric moisture, minimal light pollution, and stable weather conditions, making it ideal for astronomical research and star gazing. The reserve is home to the Indian Astronomical Observatory, which houses one of Asia's largest optical telescopes. It plays a critical role in astrophysical studies and is a key attraction for astro

tourists seeking pristine night sky views.

Why in news?

Hanle Dark Sky Reserve was featured prominently in the Ladakh Astro Tourism Festival as a prime site for night sky observations and astrophysics education.

Hepatitis C Cure

Hepatitis C is a viral infection that causes liver inflammation and can lead to cirrhosis and liver cancer. Unlike hepatitis B, hepatitis C is **curable** with direct-acting antiviral (DAA) medications, which became widely available after 2014. These treatments have cure rates exceeding **95%** and are typically taken for 8 to 12 weeks. The virus has multiple genotypes, with some requiring tailored treatment regimens. Despite its curability, many people remain undiagnosed due to asymptomatic progression. Early detection through testing is critical to prevent liver damage and transmission.

Why in news?

The 2025 campaign stresses the importance of scaling up hepatitis C testing and treatment to achieve hepatitis elimination targets by 2030.

HOPS□315

HOPS-315 is a young star located in the Orion molecular cloud complex, known for its protoplanetary disc tilted at an angle allowing detailed observation from Earth. The star is surrounded by a rotating disc of gas and dust where planet formation occurs. Observations revealed the presence of silicon monoxide gas and crystalline silicates within 2.2 AU of the star, indicating active dust vaporization and re-condensation. The system's temperature near 1 AU reaches around 1,300 K, sufficient to evaporate dust grains. HOPS-315 provides a rare glimpse into the initial stages of rocky planet formation outside the Solar System.

Why in news?

HOPS-315 was observed by the James Webb Space Telescope and ALMA, capturing the first direct evidence of rock vapor condensation in a protoplanetary disc, a key step in planet formation.

Human Rated Launch Vehicle (HLVM3)

The **Human Rated Launch Vehicle Mark 3 (HLVM3)** is an upgraded variant of India's heavy-lift launch vehicle, designed specifically for crewed missions under the Gaganyaan program. It includes enhanced safety features like a Crew Escape System and improved propulsion tailored for human spaceflight. The development and ground testing of HLVM3 have been completed, marking a critical milestone for India's first human spaceflight mission. It supports the launch of the Crew Module and Service Module into low Earth orbit, ensuring safe transport and return of astronauts. HLVM3 integrates advanced avionics and redundancy systems for mission reliability.

Why in news?

HLVM3's development and ground testing have been completed as part of India's Gaganyaan program, India's first human spaceflight mission aimed at demonstrating crewed spaceflight capabilities.

I3K Satellite Bus

The I3K is a modular satellite platform developed by ISRO, designed to support medium-sized Earth observation and communication satellites. It provides structural support, power, thermal control, and onboard data handling systems. The I3K bus is adaptable to various payloads and mission requirements. For NISAR, ISRO modified the I3K bus to integrate NASA's 12-meter unfurlable mesh reflector antenna and dual-frequency SAR instruments. The bus supports the deployment of complex payloads and ensures stability and power management during the satellite's operational life.

Why in news?

ISRO's modified I3K satellite bus is hosting the NISAR satellite's dual-frequency radar payload, facilitating its Earth observation mission launched in July 2025.

ICMR-National Institute of Translational Virology

The ICMR-National Institute of Translational Virology (NITV) in Pune focuses on viral research and vaccine development. It plays a key role in translational research, bridging laboratory discoveries to clinical applications. NITV co-leads the phase-3 dengue vaccine trial, collaborating with other national institutes. The institute is also involved in research on HIV/AIDS and emerging viral infections. It supports multi-centre clinical trials and epidemiological studies, contributing to India's public health responses to viral diseases. NITV's work includes studying virus-host interactions and developing diagnostics and therapeutics for viral infections.

Why in news?

NITV is co-leading the phase-3 clinical trial for the indigenous dengue vaccine DengiAll, step in dengue prevention in India.

ICMR-NITVAR

The Indian Council of Medical Research-National Institute of Translational Virology (ICMR-NITVAR) is a premier research institute focused on virology and infectious diseases. It coordinates clinical trials, including the Phase III trial of the DengiAll vaccine. ICMR-NITVAR was formerly part of ICMR-NARI (National AIDS Research Institute) and has expanded its mandate to translational virology research. The institute handles trial coordination, data collection, and immunogenicity analysis. It collaborates with multiple clinical trial sites across India and plays a critical role in developing vaccines and diagnostics for viral diseases endemic to the region.

Why in news?

ICMR-NITVAR is the central coordinating body for the ongoing Phase III DengiAll dengue vaccine trial, overseeing multiple trial sites and research protocols.

Idiopathic Scoliosis

Idiopathic scoliosis is the most common form of scoliosis, accounting for about **80% of cases**. It primarily affects children and adolescents during their growth spurts, with no identifiable cause. The spine curves abnormally in an S or C shape. It is more prevalent in females, who are at higher risk of curve progression. Diagnosis is often delayed due to

lack of early screening, especially in countries like India. Treatment includes monitoring, bracing for moderate curves, and surgery with rods and screws for severe cases. The condition can vary from mild to very severe and may cause pain or breathing difficulties.

WHY IN NEWS?

Recent studies show the prevalence and late diagnosis of idiopathic scoliosis in Indian regions like Jammu and Kashmir, urging improved screening and research for better management of this common spinal condition.

IIT Madras Assistive Tech Initiative

IIT Madras has a dedicated program focused on **assistive mobility technology**, aiming to develop practical solutions for differently-abled individuals. The initiative integrates **cutting-edge research** with empathetic design principles to create user-centric products. It emphasizes customization based on biomechanics and daily usability, addressing challenges such as portability and comfort. The program collaborates with users for feedback and testing, ensuring products meet real-world needs. This approach has led to innovations like the YD One wheelchair and other assistive devices that improve independence and quality of life.

WHY IN NEWS?

The launch of the YD One wheelchair is part of IIT Madras's broader assistive technology initiative focusing on empathetic and research-driven design.

IMT Frequency Bands

IMT (International Mobile Telecommunications) frequency bands are globally standardized spectrum bands designated by the ITU for mobile broadband services including 4G and 5G. These bands enable interoperability of devices and networks worldwide. IMT bands include popular frequencies like 700 MHz, 1800 MHz, 2100 MHz, and 3500 MHz. The availability of a mature device ecosystem in IMT bands facilitates widespread adoption and deployment of new technologies. The DoT's recent analysis found that CNPN device ecosystems are mostly available in IMT bands, making them preferable for direct spectrum assignment over less supported bands.

WHY IN NEWS?

The DoT's recent guidelines for CNPN spectrum assignment emphasize IMT bands due to the existing device ecosystem and advanced 5G use cases, influencing the choice of frequency bands for private networks.

IN-SPACe

The Indian National Space Promotion and Authorisation Centre (**IN-SPACe**) is an autonomous agency under the Department of Space, Government of India, established in 2020. It facilitates private sector participation in space activities by providing regulatory approvals and infrastructure access. IN-SPACe acts as a single-window agency for authorising private entities to use Indian space infrastructure and spectrum. It promotes commercialisation and innovation in space technology while ensuring coordination between ISRO and private players. IN-SPACe's role includes licensing, authorisation, and

oversight of non-governmental space activities, aiming to liberalise India's space sector and boost private investment.

Why in news?

IN-SPACe authorised Starlink Satellite Communications Private Limited to deploy and operate the Starlink Gen1 satellite constellation in India, marking a regulatory milestone for private satellite broadband services.

Indian Institute of Astrophysics

The **Indian Institute of Astrophysics (IIA)**, headquartered in Bangalore, is a premier research institution focused on astronomy, astrophysics, and related sciences. Established in 1786, it operates several observatories including the Vainu Bappu Observatory and the Kodaikanal Solar Observatory. IIA has contributed to space science, including collaboration with ISRO on space missions. It conducts public outreach and educational programs to promote science literacy. The institute's involvement in the Ladakh Astro Tourism Festival marks its commitment to popularizing astrophysics and supporting tourism linked to scientific exploration.

Why in news?

IIA collaborated with the Ladakh Tourism Department to organize the first Ladakh Astro Tourism Festival, providing expert talks and telescope-guided sessions.

Indian Regional Navigation Satellite System (IRNSS)

The **Indian Regional Navigation Satellite System (IRNSS)**, also known as NavIC, is a regional satellite navigation system developed by ISRO. It consists of a constellation of seven satellites providing accurate position information over India and up to 1,500 km around it. IRNSS aims to reduce dependency on foreign GPS systems. It offers two services – Standard Positioning Service (SPS) for civilian use and Restricted Service (RS) for authorized users. Eleven satellites have been launched, but only seven were intended for the constellation. Some satellites failed due to technical issues like orbit insertion failure and heat shield malfunction.

Why in news?

ISRO plans to launch three new IRNSS satellites (NVS-03, NVS-04, NVS-05) by next year to restore and enhance the system's operational capability after some satellites failed or were decommissioned.

Integral Coach Factory (ICF)

The Integral Coach Factory (ICF) in Chennai, established in 1955, is one of the earliest and largest coach manufacturing units of Indian Railways. It produces over 2,500 coaches annually, including conventional and modern designs like LHB (Linke Hofmann Busch) coaches. ICF has developed indigenous technology for various rail components and has collaborated internationally for technology upgrades. It was the first in India to manufacture stainless steel coaches. The factory also undertakes refurbishment and retrofitting of coaches, contributing to Indian Railways' modernization efforts. It plays a key role in research and development, including the hydrogen-powered train project.

Why in news?

ICF recently tested India's first hydrogen-powered driving power car, marking a milestone in the country's push for cleaner rail transport.

Internet of Things (IoT) Training

Internet of Things (IoT) refers to the network of physical devices embedded with sensors and software to connect and exchange data. IoT technology spans industries such as healthcare, agriculture, and manufacturing. Training in IoT includes learning sensor integration, data analytics, and device communication protocols. It is a rapidly growing employment sector due to increased automation and smart systems. The PM VIKAS project includes training 150 youth in IoT, equipping them with skills to enter emerging tech markets. IoT training programs often combine theoretical knowledge with hands-on projects to enhance job readiness.

Why in news?

The PM VIKAS project under IIIT Kottayam includes specialized training in Internet of Things (IoT) for 150 minority youth to enhance employment opportunities.

Interstellar Comet

An interstellar comet is a comet originating from outside the solar system, traveling on a hyperbolic trajectory that prevents it from orbiting the Sun. These objects are composed of ice, dust, and rock, similar to solar system comets, but formed in different star systems. They are believed to be ejected from their original planetary systems by gravitational interactions and drift through interstellar space for millions or billions of years. Their rare visits provide unique opportunities to study materials from other star systems and understand planetary system formation processes beyond our solar system.

Why in news?

The discovery of 3i/Atlas in July 2025 brought renewed attention to interstellar comets and their significance in understanding cosmic origins and planetary formation.

Intraparticle Entanglement

Intraparticle entanglement refers to quantum entanglement occurring between different internal degrees of freedom within a single particle, such as spin and path, rather than between separate particles. Unlike interparticle entanglement, it is more robust against environmental noise and can even be generated or revived by noise like amplitude damping. This form of entanglement is less studied but has potential for stable quantum information processing. It can be analyzed using concurrence, a measure of entanglement, and modeled with a Global Noise Model treating the particle as a whole. Applications include quantum communication and computing with photons, neutrons, or trapped ions.

Why in news?

Researchers at Raman Research Institute and collaborators discovered that intraparticle entanglement can survive, revive, or emerge under quantum noise, challenging the assumption that noise only destroys entanglement.

ISRO Docking Experiment

The ISRO docking experiment conducted in 2025 demonstrated India's ability to autonomously dock two spacecraft in orbit, a critical technology for future space stations and manned missions. The experiment involved the Automated Transfer Vehicle (ATV) and a target spacecraft, showcasing precise maneuvering and docking capabilities. This milestone places India among the few countries with advanced orbital rendezvous technology, essential for constructing and maintaining space stations, refueling satellites, and deep space exploration. The docking test was part of ISRO's broader plan to develop indigenous technologies for sustainable human spaceflight and long-term space habitation.

Why in news?

The successful docking experiment was brought into light by ISRO Chairman V. Narayanan as a key achievement in India's space program during the IIITDM Kurnool convocation.

Kakrapar Atomic Power Station (KAPS)

The Kakrapar Atomic Power Station is located in Gujarat, and hosts indigenous Pressurized Heavy Water Reactors (PHWRs). It initially operated 220 MWe units, with the newer KAPS-3 and KAPS-4 units being the first 700 MWe PHWRs developed in India. These reactors use heavy water as both moderator and coolant, enabling efficient use of natural uranium. KAPS has been a key site for India's nuclear power expansion and technology development since its first unit was commissioned in the early 1990s. It is managed by the Nuclear Power Corporation of India Limited (NPCIL).

Why in news?

KAPS-3 and KAPS-4 have received a five-year operation license from the Atomic Energy Regulatory Board after safety reviews, marking a milestone for India's indigenous 700 MWe PHWR technology.

L-band and S-band Radar

L-band and S-band refer to specific microwave frequency ranges used in radar systems. **L-band radar operates at 1-2 GHz** and can penetrate dense vegetation and ice, making it suitable for studying tall trees and ice sheets. **S-band radar operates at 2-4 GHz**, providing higher resolution for shorter vegetation like bushes and shrubs, and is effective for aviation and maritime applications such as fog detection. The combination of both bands in NISAR allows comprehensive surface characterization by capturing different feature sizes and attributes such as soil moisture, surface roughness, and movement.

Why in news?

NISAR's dual-frequency radar payloads, L-band by NASA and S-band by ISRO, enable it to capture diverse environmental data, enhancing Earth surface monitoring capabilities post-launch.

Large Language Models (LLMs) in Research

Large Language Models (LLMs) are AI systems trained on vast text datasets to generate human-like language, often used for drafting or enhancing academic manuscripts. Their

use in research writing has increased but requires proper disclosure to maintain transparency. Undisclosed use of LLMs can lead to ethical violations, such as misrepresentation of authorship or originality. Journals have started scrutinizing papers for undisclosed LLM involvement, which may contribute to retractions. The rapid advancement of LLMs like GPT has raised challenges in research ethics, peer review, and publication standards, prompting institutions to update guidelines for AI-assisted writing.

Why in news?

Retractions have increased due to undisclosed use of LLMs in research papers, prompting stricter journal investigations and penalties.

Laser Interferometer Gravitational-wave Observatory (LIGO)

The **Laser Interferometer Gravitational-wave Observatory (LIGO)** consists of two large-scale interferometers in the U.S. designed to detect gravitational waves—ripples in spacetime from massive accelerating objects. LIGO uses laser beams traveling down 4-kilometer vacuum arms to measure tiny spacetime distortions smaller than a proton's diameter. It first detected gravitational waves in 2015 from merging black holes. LIGO operates in coordination with Virgo (Italy) and KAGRA (Japan) observatories to improve detection accuracy. Its detections confirm predictions of General Relativity and provide vital information about black hole properties and cosmic events.

Why in news?

LIGO detected the GW231123 gravitational wave event from the collision of two massive black holes, marking the most massive black hole merger observed with high confidence.

Life Sciences Glovebox

The **Life Sciences Glovebox (LSG)** is a sealed laboratory facility aboard the ISS designed for biological and chemical experiments requiring containment. It uses glove ports allowing astronauts to manipulate samples without direct contact. The LSG maintains controlled atmospheric conditions and prevents contamination of the station environment. It supports diverse experiments including cellular biology, muscle research, and microgravity effects on living tissues. The glovebox was developed by NASA to enable safe, hands-on research in orbit. It has been critical in studies of muscle atrophy, plant growth, and drug development in microgravity, advancing both space and terrestrial medicine.

Why in news?

Group Captain Shubhanshu Shukla conducted the first scientific experiment by an Indian citizen aboard the ISS using the Life Sciences Glovebox to study muscle loss in microgravity.

LIGO-India Project

LIGO-India is a planned gravitational wave observatory to be built in India as part of the international LVK network. It will be the third LIGO detector outside the U.S., enhancing the global network's ability to pinpoint gravitational wave sources. Indian scientists from 17 institutions are involved in the project. LIGO-India will use laser interferometry to

detect spacetime distortions from cosmic events. Its addition will improve the network's sky coverage and detection sensitivity. The project also encourages advanced scientific collaboration and capacity-building in India's physics community.

Why in news?

LIGO-India is mentioned as an upcoming member of the LVK network, contributing to future gravitational wave discoveries following GW231123.

Lunar South Pole Exploration

The lunar south pole is a region of the Moon characterized by permanently shadowed craters containing water ice deposits. This area has extreme cold traps and unique mineralogy, making it a prime target for scientific study and future human exploration. Water ice in these craters could support life support systems and fuel production for lunar missions. The region's topography includes highlands and deep craters, creating challenging landing conditions. Chandrayaan-2 focused on this area to map mineral distribution and detect water molecules, contributing to understanding the Moon's resources and geology.

Why in news?

Chandrayaan-2's mission focused on the lunar south pole, marking six years since its launch, denoting ongoing interest in this strategic lunar region.

Mahendragiri Propulsion Complex

The **Mahendragiri Propulsion Complex** is an ISRO facility located in Tamil Nadu, specializing in testing and validating spacecraft propulsion systems. It supports hot firing tests of liquid engines and thrusters under simulated space conditions. The complex is equipped with advanced test stands capable of handling various thrust levels and durations. Mahendragiri plays important role in the development of propulsion technologies for ISRO's launch vehicles and spacecraft, including the Gaganyaan mission. It integrates telemetry, control, and safety systems to ensure precise data collection and risk mitigation during engine tests.

Why in news?

ISRO conducted the hot firing tests of the Gaganyaan Service Module Propulsion System at the Mahendragiri Propulsion Complex in early July 2025.

Measles and Rubella Vaccines

Measles and Rubella vaccines are combined immunizations used to protect against two highly contagious viral diseases. The vaccine is typically administered in two doses, starting from nine months of age. Measles can cause severe complications such as pneumonia and encephalitis, while rubella infection during pregnancy can result in congenital rubella syndrome in newborns. The vaccine is part of the WHO's Expanded Programme on Immunization and is critical in reducing child mortality. Global vaccination efforts have decreased cases, but outbreaks still occur due to vaccine hesitancy, healthcare disruption, and misinformation.

Why in news?

India dispatched 300,000 doses of Measles and Rubella vaccines to Bolivia amid a national

health emergency declared due to a measles outbreak in 2025, aiming to support mass immunization efforts.

NavIC Satellite System

NavIC (**Navigation with Indian Constellation**) is India's regional satellite navigation system consisting of seven satellites in geosynchronous orbit. It provides accurate positioning services over India and a 1,500 km surrounding region. NavIC offers two services – Standard Positioning Service (SPS) for civilian use and Restricted Service (RS) for authorized users. It was developed by the Indian Space Research Organisation (ISRO) and became operational in 2018. NavIC is intended to reduce dependence on foreign global navigation systems like GPS. Government of India mandates its use in satellite communication user terminals to ensure data sovereignty and security.

Why in news?

Indian telecom authorities require satellite communication companies like Starlink to implement NavIC-based positioning systems in user terminals by 2029 as part of regulatory compliance.

NISAR Mission

The **NASA-ISRO Synthetic Aperture Radar (NISAR)** mission is a joint Earth observation satellite project launched to monitor surface changes globally. It operates with dual frequency SAR payloads – **L-band** developed by NASA and **S-band** developed by ISRO. NISAR orbits Earth at approximately **464 miles altitude**, circling about **14 times daily**, scanning land and ice surfaces twice every 12 days. It generates around **80 terabytes of data daily**. The mission focuses on tracking ground deformation, ice movement, vegetation changes, soil moisture, and disaster response, with a planned prime mission duration of **three years**.

Why in news?

NISAR was recently launched, marking step in Earth observation with its advanced dual-band SAR system, enabling detailed monitoring of environmental and climate changes worldwide.

Organ Radioactivity Detection System

The **Organ Radioactivity Detection System** is a specialized device designed to detect and measure radioactive contamination within human or animal organs. It employs sensitive gamma spectroscopy to identify internal contamination levels, useful for medical diagnostics and radiation safety. The system aids in early detection of radiological exposure and supports treatment planning for affected individuals. It is used in nuclear medicine, radiological emergency response, and research. The technology improves health monitoring for personnel working in radiological environments by providing non-invasive, accurate internal contamination assessments.

Why in news?

One of the six indigenously developed products handed over by DRDO to the Indian Navy, enhancing radiological safety and health monitoring.

Pragyan Rover

Pragyan is the lunar rover part of ISRO's Chandrayaan-2 mission, designed to explore the Moon's surface. It weighs approximately 27 kilograms and is equipped with instruments to analyze soil composition and surface elements. The rover was intended to operate for 14 Earth days but lost communication after the Vikram lander crash. Pragyan uses solar panels for power and moves on six wheels. Its scientific payload includes a spectrometer and alpha particle X-ray spectrometer for mineralogical analysis. The rover's name means wisdom in Sanskrit, reflecting its mission to gather knowledge about the lunar south pole.

Why in news?

Pragyan was part of Chandrayaan-2, which celebrated its 6th anniversary of launch; despite the lander failure, the rover's design and objectives remain .

Pronuclear Transfer

Pronuclear transfer is a reproductive technique involving the transfer of nuclear genetic material from a fertilized egg into a donor fertilized egg that has had its own pronuclei removed. This method replaces faulty mitochondrial DNA with healthy mitochondria from the donor egg. The pronuclei contain the nuclear DNA from both parents, which directs the baby's development. This technique helps prevent mitochondrial diseases caused by mutations in mitochondrial DNA. It requires fertilization of the mother's egg before transfer. The procedure was first applied clinically in the UK and is distinct from other mitochondrial replacement methods like spindle transfer.

Why in news?

UK scientists used pronuclear transfer to create eight healthy children free from mitochondrial diseases, marking clinical milestone in preventing inherited mitochondrial disorders.

Rabies Immunoglobulin

Rabies immunoglobulin (RIG) is a preparation of antibodies used for post-exposure prophylaxis against rabies and related viruses like Australian bat lyssavirus. It provides immediate passive immunity by neutralizing the virus at the wound site. RIG is administered along with the rabies vaccine, which stimulates active immunity. The immunoglobulin is derived from human or equine plasma. It must be given as soon as possible after exposure, ideally within 24 hours. The dose depends on body weight and wound severity. RIG does not reverse symptoms once rabies or lyssavirus disease has developed.

Why in news?

The man bitten by a bat was treated with rabies immunoglobulin and vaccine, standard post-exposure measures for Australian bat lyssavirus, but still succumbed to the infection.

Rad Nano Dosimeter

The **Rad Nano Dosimeter** is a compact radiation monitoring device designed for use in space environments. It measures ionizing radiation exposure at the nanoscale, providing detailed data on radiation dose and particle types. Developed to improve astronaut safety,

it helps assess cumulative radiation risks during long-duration missions beyond low Earth orbit. The device's small size allows deployment in confined areas of spacecraft or spacesuits. It uses advanced semiconductor technology to detect high-energy particles and cosmic rays. Data from the Rad Nano Dosimeter informs shielding design and operational protocols to minimize radiation-induced health effects.

Why in news?

Hungarian astronaut Tibor Kapu deployed the Rad Nano Dosimeter aboard the ISS to monitor radiation exposure during the Ax-4 mission.

Raman-Driven Spin Noise Spectroscopy (RDSNS)

RDSNS is a technique that measures magnetic fields by detecting random fluctuations in the spin of atoms, known as spin noise. It uses laser light to observe these quantum jitters in Rubidium atoms without disturbing them. This method enhances the dynamic range of magnetic resonance signals while maintaining high sensitivity. RDSNS operates without magnetic shielding, making it suitable for noisy, real-world environments. It provides broadband capability and fast time response, allowing precise magnetic field measurements from very weak to very strong fields. It is immune to electrical interference, stray RF noise, and mechanical vibrations.

Why in news?

Researchers at the Raman Research Institute developed RDSNS to create a portable, shield-free atomic magnetometer with high sensitivity and wide dynamic range, suitable for clinical, industrial, and space applications.

Ramjet Artillery Shells

Ramjet artillery shells use a small ramjet engine to sustain propulsion after firing, extending their range beyond conventional shells. These shells combine the initial velocity from the gun with continuous thrust generated by air intake and fuel combustion during flight. Ramjet shells improve both range and accuracy, especially when integrated with inertial guidance systems. They require advanced aerodynamics and propulsion technologies and are part of ongoing DRDO efforts to enhance indigenous ammunition for artillery systems like ATAGS and MGS.

Why in news?

DRDO is developing advanced ammunition including ramjet shells fitted with inertial guidance to improve the range and precision of new indigenous artillery guns.

Rare Earth Magnets

Rare earth magnets are strong permanent magnets made from alloys of rare earth elements like neodymium, samarium, and dysprosium. They are essential components in traction motors used in electric vehicles due to their high magnetic strength and temperature resistance. China dominates the global supply and export of these magnets, controlling over 80% of production. Export restrictions by China can disrupt global supply chains, affecting manufacturing industries worldwide. The magnets are critical for motor efficiency and performance, making their availability a strategic concern for countries

promoting electric vehicle manufacturing.

Why in news?

China's April 4 export restrictions on rare earth magnets have led Indian authorities to tighten compliance and localisation requirements for electric vehicle manufacturers under the PM E-DRIVE scheme.

Satellite Instructional Television Experiment (SITE)

The **Satellite Instructional Television Experiment (SITE)** was launched on August 1, 1975, as a joint India-US project using NASA's ATS-6 satellite. It broadcast educational and agricultural programs to about **2,400 villages** across six state of Indias, targeting remote and backward regions. Villages received signals via a **10-foot diameter antenna** connected to battery-operated TV sets, often installed in schools or panchayat buildings. SITE included India's first district-level rural TV station in Kheda, Gujarat. The project trained 45,000 teachers and involved social scientists living in villages to study impacts. It won UNESCO's first Rural Communication Prize.

Why in news?

SITE is in the news for its 50th anniversary, denoting its pioneering role in using satellite technology for rural education and development in India.

Satish Dhawan Space Centre

Satish Dhawan Space Centre (SDSC) is India's primary spaceport, located in Sriharikota, Andhra Pradesh. It was established in 1971 and named after Satish Dhawan, a pioneer of the Indian space program. The center covers over 145 square kilometers and includes multiple launch pads, vehicle assembly buildings, and testing facilities. It supports launches of various rockets, including PSLV and GSLV. SDSC is situated on an island between Pulicat Lake and the Bay of Bengal, providing a safe downrange area for rocket stages. It plays important role in India's space missions, including Chandrayaan and Mangalyaan projects.

Why in news?

Satish Dhawan Space Centre was the launch site for Chandrayaan-2 on July 22, 2019, marking the 6th anniversary of the mission's lift-off.

Silicon Monoxide Gas

Silicon monoxide (SiO) gas forms when dust grains vaporize at high temperatures around young stars, typically near 1,300 K. It is a refractory molecule involved in the earliest stages of planet formation. SiO gas cools and re-condenses into crystalline silicates such as forsterite and enstatite, which are fundamental building blocks of rocky planets. The presence of SiO gas is detected by its spectral signature, often via blueshifted emission indicating movement within the disc atmosphere. SiO gas is rarely observed directly in protoplanetary discs, making its detection important marker for dust evaporation and mineral condensation.

Why in news?

Silicon monoxide gas was identified around HOPS-315, confirming the process of dust vaporization and crystallization in a young star's protoplanetary disc for the first time.

Sun Synchronous Polar Orbit (SSPO)

A Sun Synchronous Polar Orbit is a near-polar orbit where a satellite passes over the same part of the Earth at roughly the same local solar time. This orbit allows consistent lighting conditions for imaging, critical for earth observation satellites. SSPO typically has an altitude between 600 and 800 km and an inclination close to 98 degrees. It enables satellites to provide repeat coverage of the Earth's surface every 12 to 16 days, depending on the satellite. The orbit is widely used for environmental monitoring, climate research, and military reconnaissance. Maintaining precise SSPO requires periodic orbital adjustments due to atmospheric drag and gravitational perturbations.

Why in news?

The NISAR satellite was placed into a Sun Synchronous Polar Orbit by the GSLV F-16 for consistent earth observation data.

Werner Heisenberg

Werner Heisenberg (1901–1976) was a German physicist and one of the founders of quantum mechanics. At age 23, while on the island of Helgoland, he developed matrix mechanics. Heisenberg formulated the uncertainty principle, which states that position and momentum cannot both be precisely measured simultaneously. He won the Nobel Prize in Physics in 1932 for creating quantum mechanics. During World War II, he led Germany's nuclear research program. After the war, he contributed to the development of nuclear physics and philosophy of science. Heisenberg's work underpins modern quantum theory and technologies such as lasers, semiconductors, and quantum computing.

Why in news?

Heisenberg's breakthrough on Helgoland in 1925 is recognized as the birth of quantum theory, influencing physics and technology deeply.

International Relations & Organizations

BASIC Group

The **BASIC group** is an alliance of four large developing countries – Brazil, South Africa, and China. Formed in 2009 during UN climate negotiations, it aims to coordinate their positions on climate change, emphasizing equity and common but differentiated responsibilities. BASIC countries have opposed unilateral trade measures like carbon border taxes, arguing such policies cause market distortions and undermine trust among parties. They advocate for solidarity among developing nations against unfair shifting of emission reduction burdens. BASIC has actively raised these concerns at major climate conferences, including COP27 and COP29, seeking to influence international climate and trade policies.

Why in news?

BASIC countries, including India and China, jointly challenged CBAM and related trade restrictions at recent climate summits, delaying COP29 proceedings in November 2024.

BIMSTEC

The **Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation**

(BIMSTEC) is an international organization comprising seven member countries – Bangladesh, Bhutan, Myanmar, Nepal, Sri Lanka, and Thailand. Established in 1997, BIMSTEC focuses on regional cooperation in sectors including trade, technology, energy, and transport. It bridges South Asia and Southeast Asia, enhancing economic integration. BIMSTEC operates through various sectors like agriculture, fisheries, tourism, and ports. It has a permanent secretariat in Dhaka, Bangladesh. The organization aims to promote sustainable development and connectivity in the Bay of Bengal region, a strategically important maritime area.

WHY IN NEWS?

BIMSTEC is in the news due to the launch of the two-day BIMSTEC Ports Conclave in Visakhapatnam, focusing on enhancing maritime connectivity and cooperation among member nations.

International Livestock Research Institute

The **International Livestock Research Institute (ILRI)** is headquartered in Nairobi, Kenya, and focuses on improving food security and reducing poverty in developing countries through livestock research. Established in 1994, ILRI is part of the CGIAR consortium, which supports agricultural research globally. ILRI conducts research on animal genetics, health, feeds, and sustainable livestock systems. It plays a key role in policy advocacy on livestock's role in nutrition and climate resilience. ILRI collaborates with governments, NGOs, and private sectors to enhance livestock productivity and environmental sustainability in low- and middle-income countries (LMICs). It also promotes gender equity in livestock farming.

WHY IN NEWS?

ILRI coordinated the open letter urging the UN to distinguish between industrial and natural trans fats in the upcoming UN Political Declaration on Non-Communicable Diseases, denoting the nutritional importance of animal-source foods in developing countries.

International Maize and Wheat Improvement Center (CIMMYT)

CIMMYT is a Mexico-based international research institute focused on maize and wheat improvement. Founded in the 1940s and 50s as a pilot project by the Mexican government and the Rockefeller Foundation, it became a global leader in crop breeding. CIMMYT's research contributed to the Green Revolution by developing high-yield, semi-dwarf wheat varieties. It operates globally with over 1,800 staff, including 19 international and 144 national staff in India, plus 25 Indian scientists worldwide. Funding mainly came from USAID and the Gates Foundation until USAID ceased operations in 2024, impacting its budget .

WHY IN NEWS?

CIMMYT is seeking financial support from India and the private sector due to a funding shortfall after USAID's closure in 2024, threatening its global wheat and maize breeding programs vital for food security.

International Seabed Authority (ISA)

The **International Seabed Authority (ISA)** was established in 1994 under the UN Convention on the Law of the Sea to regulate mineral-related activities in the international seabed beyond national jurisdiction. It has **169 member states** and an executive council of 36 members. The ISA develops a mining code to govern deep-sea mining, focusing on environmental protection and equitable resource sharing. It controls exploration and exploitation of metals like cobalt, nickel, and manganese from ocean floors. The ISA operates in international waters, where no single country has sovereignty, making its regulations critical for global maritime governance.

Why in news?

The ISA is in focus due to stalled negotiations on finalizing deep-sea mining regulations amid US efforts to fast-track mining permits outside ISA's framework.

International Solar Alliance

The **International Solar Alliance (ISA)** is an initiative launched in 2015 by India and France to promote solar energy deployment globally, especially in tropical countries. It comprises over 120 member countries primarily located between the Tropics of Cancer and Capricorn. The ISA aims to facilitate cooperation in solar technology, reduce dependence on fossil fuels, and mobilize $1 trillion in investments by 2030. It supports capacity building, research, and financing mechanisms for solar projects. The alliance also focuses on developing sustainable energy infrastructure and promoting affordable solar power access in developing nations, advancing global climate change mitigation efforts.

Why in news?

Bolivia recently joined the International Solar Alliance as part of its efforts to enhance renewable energy collaboration with India, coinciding with its bicentennial independence celebrations in August 2025.

Line of Actual Control (LAC)

The **Line of Actual Control (LAC)** is the de facto border between India and China-controlled Tibet, established after the 1962 Sino-Indian War. It is not a formally agreed boundary but a military control line, with frequent disputes and skirmishes. The LAC stretches over 3,488 kilometers through difficult terrain in Ladakh, Himachal Pradesh, Uttarakhand, Sikkim, and Arunachal Pradesh. Both countries maintain differing perceptions of the LAC's precise location, causing ongoing tensions. Unlike the South China Sea, the LAC dispute involves direct territorial claims and military presence. It remains a sensitive issue in India-China relations and is often excluded from multilateral statements to avoid escalating conflict.

Why in news?

The recent Quad joint statement referenced South China Sea concerns but omitted mention of the LAC dispute, reflecting diplomatic sensitivities involving India-China border tensions.

Mahasagar Vision

MAHASAGAR stands for **Mutual and Holistic Advancement for Security and Growth Across Regions**. It is a strategic framework aimed at enhancing maritime security and sustainable growth through regional cooperation. The vision promotes sharing of hydrographic data, technological collaboration, and capacity building among Indian Ocean Region countries. It supports coordinated efforts in oceanographic research, disaster response, and maritime domain awareness. MAHASAGAR is aligned with India's broader goal of encouraging peace, security, and economic development through maritime partnerships.

Why in news?

The MAHASAGAR vision was emphasized during INS Sandhayak's visit to Malaysia, where it facilitated knowledge exchanges and strengthened regional hydrographic cooperation.

Operation MED MAX

Operation MED MAX was a major international crackdown led by India's Narcotics Control Bureau starting May 25, 2025. It targeted a global drug cartel trafficking controlled pharmaceutical substances across four continents using encrypted communications, drop-shipping, and cryptocurrency payments. The operation began with the seizure of 3.7 kg of Tramadol tablets near Mandi House, New Delhi. It uncovered a network involving vendors, stockists, and coordinators in India and abroad, facilitating at least 50 international consignments. The operation involved multi-agency coordination, resulting in eight arrests and seizures in India, the USA, and Australia, dismantling illegal manufacturing and distribution hubs.

Why in news?

Operation MED MAX was announced following the bust of a global pharmaceutical drug cartel, involving seizures and arrests across India, the USA, and Australia, denoting international cooperation against drug trafficking.

Quadrilateral Security Dialogue (Quad)

The **Quadrilateral Security Dialogue**, known as the Quad, is a strategic forum between India, Australia, Japan, and the United States. It was initially formed in 2007 but became inactive until revitalized in 2017. The Quad focuses on regional security, maritime cooperation, and countering influence in the Indo-Pacific region. It is **not a formal military alliance** but emphasizes coordination on issues like maritime law enforcement and supply chain security. The grouping's effectiveness often depends on the US administration's stance. The Quad has launched initiatives like the **Critical Minerals Initiative** to reduce supply chain vulnerabilities.

Why in news?

The Quad's foreign ministers met in Washington DC to discuss renewed cooperation, including expanding maritime law enforcement and launching the Critical Minerals Initiative, reflecting shifting US priorities and concerns about China and supply chains.

Rome Statute

The **Rome Statute** is the treaty that established the International Criminal Court (ICC) in 1998. It defines the Court's jurisdiction over genocide, crimes against humanity, war crimes, and the crime of aggression. The Statute entered into force on 1 July 2002 after ratification by 60 countries. It currently has 125 State Parties, representing a broad international commitment to prosecuting serious international crimes. The ICC operates independently of the United Nations but cooperates closely with it. The Statute includes provisions for victim participation and reparations, a unique feature in international law.

Why in news?

Ukraine became the 125th State Party to the Rome Statute, joining the ICC on 1 January 2025, symbolizing its commitment to international justice during ongoing conflict.

Ta Moan Thom Temple

Ta Moan Thom is a lesser-known ancient Khmer temple located near the Cambodia-Thailand border within the disputed Preah Vihear area. It is smaller than Preah Vihear but holds symbolic importance for both nations. The temple was the site of a 2025 incident when Cambodian civilians, escorted by troops, sang their national anthem there, prompting a response from Thai soldiers. The temple sits in an area where territorial claims overlap, and it has been a frequent flashpoint in border skirmishes. Ta Moan Thom's location marks the complexity of the border dispute beyond the main Preah Vihear temple.

Why in news?

Ta Moan Thom was involved in recent clashes that escalated tensions and military mobilization between Thailand and Cambodia in 2025.

United Nations Office on Drugs and Crime (UNODC)

The United Nations Office on Drugs and Crime (UNODC) is a UN agency established in 1997 to assist member states in fighting illicit drugs, crime, and terrorism. It supports programs related to drug control, crime prevention, criminal justice reform, and anti-corruption. UNODC operates globally, providing technical assistance, research, and policy advice. It runs drug rehabilitation programs, including those aimed at vulnerable groups like women and youth. In Afghanistan, UNODC collaborates on drug rehabilitation, focusing on reducing opium addiction and supporting social reintegration. India partners with UNODC to supply medicines and social support items for Afghan drug rehabilitation efforts.

Why in news?

India partnered with UNODC to provide 84 MTs of medicines and 32 MTs of social support items for drug rehabilitation programs in Afghanistan, especially targeting women.

Vision SAGAR

Vision SAGAR (Security and Growth for All in the Region) is an Indian maritime doctrine revealed in 2015 aimed at enhancing maritime security, cooperation, and sustainable development in the Indian Ocean Region. It emphasizes humanitarian assistance, disaster

relief, and anti-piracy operations. The vision promotes collaboration with regional countries to ensure safe and secure sea lines of communication. It aligns with India's broader Act East policy, focusing on strengthening ties with Southeast Asia. Vision SAGAR also supports capacity building in smaller Indian Ocean states. It puts stress on India's role as a net security provider in the maritime domain.

Why in news?

Vision SAGAR is brought into light in the context of India's participation in the SIMBEX naval exercise, reflecting its commitment to regional maritime cooperation and security.

World Heritage Committee

The World Heritage Committee is a governing body of the UNESCO World Heritage Convention, composed of 21 elected representatives from the 195 States parties. It meets annually to evaluate nominations for the World Heritage List and monitor the conservation status of listed sites. Established in 1976, the Committee oversees the implementation of the Convention for the Protection of the World's Cultural and Natural Heritage. The 47th session, held in July 2025 in Paris, inscribed the Maratha Military Landscapes among other sites. The Committee balances cultural, natural, and mixed heritage nominations globally.

Why in news?

The World Heritage Committee inscribed the Maratha Military Landscapes on the UNESCO World Heritage List during its 47th session in Paris in July 2025.

WTO Safeguard Measures

Safeguard measures under the WTO allow countries to temporarily restrict imports of a product to protect a specific domestic industry from serious injury caused by a surge in imports. These measures must be applied uniformly to all WTO members and are subject to strict conditions, including prior notification and justification. They differ from anti-dumping and countervailing duties, focusing on sudden import increases rather than unfair trade practices. The duration of safeguard measures is limited, typically up to four years, with possible extensions. They require compensation or retaliation if they cause harm to trading partners.

Why in news?

India notified the WTO of its intent to impose safeguard measures as retaliation against increased US tariffs on steel and aluminium imports, adjusting previous proposals due to the US hike from 25% to 50%.

Social Development & Government Schemes

ALIMCO (Artificial Limbs Manufacturing Corporation of India)

ALIMCO is a Central Public Sector Undertaking under India's Department of Empowerment of Persons with Disabilities. It manufactures and supplies assistive devices such as artificial limbs, calipers, wheelchairs, and other mobility aids. Founded in 1972, ALIMCO plays a critical role in implementing government schemes like ADIP and Rashtriya Vayoshri by producing and distributing assistive devices free or at subsidized rates. The

corporation uses indigenous technology and has a network of regional centers to facilitate last-mile delivery of aids. ALIMCO's products undergo quality testing to meet Indian Standards (IS) for durability and user safety.

Why in news?

ALIMCO is the implementing agency behind the establishment and functioning of the newly inaugurated 75th PMDK center in Badaun, providing assistive devices to eligible beneficiaries.

All-India Institute of Medical Sciences, Nagpur

AIIMS Nagpur is one of the newer branches of the prestigious All-India Institute of Medical Sciences network, established to expand advanced medical education and healthcare access in central India. It offers undergraduate and postgraduate courses in medical and allied health sciences and serves as a tertiary care hospital. The institute focuses on research, public health initiatives, and community outreach programs tailored to regional health challenges. AIIMS Nagpur is equipped with modern facilities and is part of the government's effort to decentralize healthcare and improve medical infrastructure outside major metropolitan areas.

Why in news?

AIIMS Nagpur is the pilot location for the Health Ministry's new initiative to display calorie, sugar, fat, and trans-fat content information beside popular food stalls to promote healthier dietary habits.

Antyodaya Sambal Fortnight

The **Antyodaya Sambal Fortnight** is a government event designed to verify and transfer financial incentives to families who have improved their economic status. It involves the validation of bank accounts of eligible beneficiaries and facilitates Direct Benefit Transfers. The fortnight is part of the broader Antyodaya (upliftment of the poorest) initiatives linked with poverty alleviation schemes. It also serves as a platform to promote awareness and implementation of social welfare programs targeting the most vulnerable sections of rural society.

Why in news?

The Antyodaya Sambal Fortnight was conducted in July 2025 to verify and disburse ₹21,000 incentives to families crossing the poverty line under the Rajasthan poverty-free village scheme.

Aspirational District Programme

The **Aspirational District Programme** was launched by NITI Aayog in 2018 to rapidly transform districts with poor development indicators. It focuses on improving health, education, agriculture, and infrastructure through collaborative governance and data-driven monitoring. The program uses **district-level dashboards** to track progress across multiple sectors, encouraging competition among districts. It involves central, state, and local governments and promotes public-private partnerships. The program has influenced new schemes like the Prime Minister Dhan-Dhaanya Krishi Yojana by emphasizing

targeted intervention in underperforming districts to improve overall national development metrics.

Why in news?

The Prime Minister Dhan-Dhaanya Krishi Yojana draws inspiration from the Aspirational District Programme, focusing exclusively on agriculture and allied sectors in 100 districts.

BioE3 Policy

The **BioE3 Policy** stands for Biotechnology for Economy, Environment and Employment, launched to position India as a global leader in sustainable biomanufacturing. It integrates bioeconomy goals with environmental sustainability, economic growth, and social equity. The policy supports pilot manufacturing, region-specific innovation missions, and strengthens the pipeline from research to market. It promotes bio-based innovations such as biodegradable packaging and eco-friendly personal care products. The BioE3 framework emphasizes livelihoods, rural employment, and green jobs, aiming to transform biotechnology from laboratory research to widespread industrial and societal applications, encouraging inclusive growth across diverse Indian regions.

Why in news?

The BioE3 Policy was recently launched and discussed during the nationwide World Bioproduct Day event, denoting India's commitment to a $300 billion bioeconomy by 2030 and sustainable biomanufacturing leadership.

Bru Tribe

The Bru tribe, also known as Reang, is an indigenous community primarily residing in Tripura and parts of Mizoram and Assam. The tribe faced displacement and conflict-induced migration, leading to long-term refugee situations in Tripura. Under PMKVY special projects, targeted skilling programs trained 2,500 Bru-tribe candidates to improve their employment prospects. The Bru community is known for its rich cultural heritage, traditional crafts, and agricultural practices. Their inclusion in skill development initiatives aims to integrate them into mainstream economic activities and promote social upliftment.

Why in news?

The Bru tribe was included in PMKVY's special projects for marginalized groups to provide vocational training and improve livelihood opportunities as part of the government's inclusive skilling drive.

Central Biostimulant Committee

Formed in April 2021 for a five-year term, the Central Biostimulant Committee is chaired by the Agriculture Commissioner with seven members. It advises the Government of India on inclusion, specifications, sampling, analysis, laboratory standards, and testing methods for biostimulants. The committee ensures compliance with the Fertiliser Control Order and monitors the registration and efficacy of biostimulant products. It plays a key role in regulating a market that grew from USD 355 million in 2024 to a projected USD 1.1 billion by 2032, ensuring quality and safety for farmers.

Why in news?

The committee's regulatory framework underpins recent government directives to control biostimulant sales and remove unverified products from the Indian market.

Centralized Public Grievance Redress and Monitoring System (CPGRAMS)

CPGRAMS is an online platform launched by the Government of India to address public grievances related to government services. It integrates multiple government departments and ministries for centralized grievance registration and monitoring. The system enables citizens to lodge complaints electronically and track their resolution status. CPGRAMS is accessible via web and Common Service Centres (CSCs). It supports transparency and accountability in public service delivery. The platform records data on grievance types, disposal rates, and user feedback. It is linked with over 5 lakh CSCs and involves around 2.5 lakh Village Level Entrepreneurs (VLEs) for grassroots outreach.

Why in news?

The 35th monthly CPGRAMS report for June 2025 was released, showing grievance redressal statistics, new user registrations, and state-wise grievance disposal data.

Child Wasting

Child wasting is a form of acute malnutrition characterized by low weight-for-height, indicating recent rapid weight loss or failure to gain weight. It affects children under five years old and increases the risk of mortality, infections, and long-term developmental issues. Severe wasting is life-threatening and requires urgent treatment. Wasting prevalence is linked to food insecurity, inadequate dietary diversity, and poor access to healthcare. Globally, wasting affects about 6.6% of children under five. A 10% rise in food prices correlates with a 4.3% increase in wasting rates, denoting the sensitivity of child nutrition to economic shocks.

Why in news?

The SOFI 2025 report links rising food prices and limited diet diversity to increased child wasting, emphasizing the worsening nutritional crisis among vulnerable children worldwide.

Digital Bharat Nidhi

The **Digital Bharat Nidhi** is a government initiative aimed at expanding rural telecom infrastructure in India. It provides financial incentives to companies to promote fixed-line broadband in underserved rural areas. The scheme supports smaller internet service providers (ISPs) offering last-mile connectivity, addressing the digital divide. It is designed to complement broader national goals of universal connectivity by facilitating affordable, high-speed internet access in villages and remote regions. The program plays important role in India's rural digital ecosystem by improving infrastructure, thus enabling better access to digital services and economic opportunities for rural populations.

Why in news?

The Digital Bharat Nidhi is brought into light in the draft National Telecom Policy 2025 as a key mechanism to expand rural telecom networks and increase broadband penetration across India by 2030.

Direct Benefit Transfer (DBT)

Direct Benefit Transfer (DBT) is an Government of India mechanism launched in 2013 to transfer subsidies and welfare payments directly into beneficiaries' bank accounts, bypassing intermediaries. It aims to reduce corruption, delays, and leakages in social welfare schemes. DBT covers subsidies for fuel, food, fertilizers, scholarships, and pensions. By 2025, DBT has been integrated with over 400 schemes across central and state governments. The system uses Aadhaar biometric identification to ensure accurate targeting. It has saved billions of dollars by eliminating duplicate and fake beneficiaries.

Why in news?

DBT is brought into light as a key factor in India's reduction of poverty and income inequality over the past decade.

eShram Portal

The **eShram portal** was launched on **26th August 2021** by the Ministry of Labour and Employment to create a National Database of Unorganised Workers (NDUW). It registers unorganised workers using Aadhaar and issues a **Universal Account Number (UAN)**. By **22nd July 2025**, over 30.95 crore workers were registered. The portal integrates **14 social security schemes** from various ministries, offering benefits like insurance, skill development, and welfare. It also links with platforms like UMANG, DigiLocker, and Skill India Digital Hub for streamlined access to services and data.

Why in news?

The eShram portal was expanded into a One-Stop-Solution on 21st October 2024, integrating multiple social security schemes for unorganised workers, enhancing their access to welfare benefits and services.

Hamari Dharohar Scheme

The **Hamari Dharohar** scheme is one of the five schemes merged into PM VIKAS, focused on preserving and promoting cultural heritage of minority communities in India. It supports activities like traditional arts, crafts, and heritage tourism. The scheme aims to empower artisans and cultural practitioners by providing skill training, marketing support, and infrastructure development. It also promotes cultural awareness and inter-community harmony. Hamari Dharohar works in tandem with other schemes to ensure holistic development and heritage conservation among minorities.

Why in news?

Proposals related to cultural heritage preservation under the Hamari Dharohar scheme were reviewed and approved during the 3rd Empowered Committee meeting of PM VIKAS on 24th July 2025.

Household Consumption Expenditure Surveys (HCES)

The **Household Consumption Expenditure Surveys (HCES)** are large-scale surveys conducted periodically in India to collect detailed data on household consumption patterns, including food and non-food items. These surveys capture data on quantities and values of consumed items over a specified reference period, enabling estimation of

nutritional intake and expenditure patterns. The HCES data support policy formulation on nutrition, poverty, and welfare. The surveys use stratified random sampling covering rural and urban sectors, and results are disaggregated by state, income fractiles, and demographic groups. HCES data are crucial for tracking changes in consumption and nutritional intake over time.

Why in news?

The Household Consumption Expenditure Surveys conducted during August 2022 – July 2023 and August 2023 – July 2024 provided updated data on food consumption and nutrient intake across India, forming the basis of the recent 'Nutritional Intake in India' report.

HPV Vaccination Campaigns

HPV vaccination protects against human papillomavirus, a leading cause of cervical cancer. In South Asia, adolescent girls' HPV coverage rose from 2% in 2023 to 9% in 2024. Bangladesh vaccinated over 7.1 million girls since launching its program in 2023. Bhutan, Maldives, and Sri Lanka increased coverage by 3, 15, and 17 percentage points respectively. Nepal started its national HPV campaign in February 2025, vaccinating over 1.4 million girls. India and Pakistan plan to launch HPV programs later in 2025. HPV vaccination is a recent addition to routine immunization schedules in the region and is vital for cancer prevention.

Why in news?

South Asian countries expanded HPV vaccination coverage in 2024-2025, with new national campaigns launched to protect adolescent girls from cervical cancer.

Hub and Spoke Model

The hub and spoke model in skill development involves a central "hub" institution providing advanced training, resources, and support to multiple smaller "spoke" institutions. In the context of ITI upgradation, 1,000 government ITIs will be organized in this model to facilitate industry-aligned trades and efficient resource utilization. The hub acts as a center of excellence, offering specialized training and curriculum development, while spokes deliver localized training based on the hub's standards. This model enhances scalability, quality control, and industry collaboration in vocational education across diverse geographic regions.

Why in news?

The Rs 60,000 crore ITI upgradation scheme includes implementing a hub and spoke arrangement to modernize training infrastructure and align trades with industry needs.

Immunization Agenda 2030

The **Immunization Agenda 2030 (IA2030)** is a global strategy launched by WHO and partners aiming to reduce vaccine-preventable diseases by increasing immunization coverage worldwide. It emphasizes equity, ensuring all children receive vaccines regardless of geography or socioeconomic status. IA2030 sets annual targets to monitor progress, including reducing zero-dose infants and increasing coverage of vaccines like

DTP and measles. The agenda integrates vaccination with broader health systems strengthening and promotes innovation in vaccine delivery and surveillance. It also focuses on addressing misinformation and funding gaps to sustain immunization gains.

Why in news?

The 2024 report indicated a 4 million shortfall against the annual target set by IA2030, signaling challenges in achieving the agenda's global vaccination goals.

Indian Council of Agricultural Research (ICAR)

The **Indian Council of Agricultural Research (ICAR)** was established in 1929 and functions as the apex body for coordinating, guiding, and managing research and education in agriculture in India. It oversees **103 institutes** and **75 agricultural universities** across the country. ICAR played a very important role in the Green Revolution during the 1960s, increasing food production. It conducts research in diverse areas including crop improvement, animal sciences, and natural resource management. ICAR also publishes scientific journals and organizes training programs for farmers and researchers. The Pusa Campus in New Delhi serves as its headquarters.

Why in news?

ICAR held its 96th Annual General Meeting at the Pusa Campus, New Delhi, focusing on innovations in agriculture, sustainable development, and farmer welfare, with participation from government ministers and agricultural scientists.

Indian Council of Medical Research (ICMR)

The Indian Council of Medical Research (ICMR), established in 1911, is India's premier government body for biomedical research. It formulates, coordinates, and promotes medical research across the country. ICMR supports institutes like NIE and funds projects addressing public health issues, including infectious diseases, nutrition, and non-communicable diseases. It plays a vital role in shaping health policies and programs in India. ICMR also collaborates with global health organizations and contributes to capacity building in medical research. The council organizes national health surveys and supports innovation in diagnostics, vaccines, and treatment protocols.

Why in news?

ICMR supports the NIE-led three-year salt reduction intervention project in Punjab and Telangana to combat hypertension and related health problems caused by excessive salt intake.

Integrated Disease Surveillance Programme (IDSP)

The **Integrated Disease Surveillance Programme (IDSP)** is a decentralized health surveillance system launched by the Government of India in 2004. It collects data on epidemic-prone diseases from hospitals and health centers across states and union territories. IDSP relies on weekly reporting from both public and private health facilities. It aims to detect outbreaks early and monitor disease trends to enable timely response. Despite its extensive network, IDSP often faces challenges like underreporting, delayed data entry, and incomplete coverage, especially in rural areas. The programme is

coordinated by the National Centre for Disease Control (NCDC) under the Ministry of Health and Family Welfare.

Why in news?

IDSP data revealed discrepancies and underreporting in heatstroke cases and deaths during early 2025, denoting gaps in India's heat-related health surveillance system.

Jan Shikshan Sansthan (JSS)

Jan Shikshan Sansthan (JSS) is a vocational training institution established to provide skill development to non-literates, neo-literates, and school dropouts aged 15-45. It primarily targets marginalized groups including women, Scheduled Castes (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), and minorities in rural and low-income urban areas. Since FY 2018-19, over 26 lakh people have been trained through JSS. The scheme focuses on inclusive skill development to enhance employability and livelihood opportunities among disadvantaged communities, bridging the gap between formal education and vocational skills.

Why in news?

JSS was merged into the restructured Skill India Programme (2022-26) along with PMKVY 4.0 and PM-NAPS to streamline skill development efforts under a single Central Sector Scheme.

Jarawa Tribe

The **Jarawa** are one of the world's oldest surviving hunter-gatherer tribes, residing in the Andaman Islands. Their population grew from about **260 in 1998** to **647 by 2025** due to improved healthcare and government contact. They live in nomadic bands of 40-50 individuals and maintain traditional medicinal practices alongside modern medical care. The tribe faces threats from intrusion via the Andaman Trunk Road (ATR), which brings them closer to local populations. The Jarawas do not suffer from lifestyle diseases common elsewhere, and their average lifespan is over 50 years.

Why in news?

The Jarawa tribe's population growth and health improvements are brought into light ahead of the 16th Census of India, which will include detailed enumeration of indigenous tribes in the Andaman and Nicobar Islands.

Kalaa Setu

Kalaa Setu is an AI-driven challenge launched by India's Ministry of Information & Broadcasting through the WaveX Startup Accelerator Platform. It focuses on developing scalable AI tools for multimedia content creation from text in multiple Indian languages. The challenge targets three core areas – text-to-video generation, text-to-graphics generation, and text-to-audio generation with regionally expressive voice synthesis. Kalaa Setu aims to enable real-time transformation of official information into localized, culturally relevant audio, video, and graphic formats for diverse audiences, including farmers and senior citizens. The initiative supports last-mile delivery of government communication in native languages.

Why in news?

Kalaa Setu challenge applications are open until July 30, 2025, inviting startups to submit AI solutions for multilingual multimedia content creation as part of India's digital governance push.

Kothari Commission

The Kothari Commission, officially the Education Commission (1964-66), was chaired by D.S. Kothari and tasked with examining the Indian education system comprehensively. Its 1968 report emphasized universal elementary education and introduced the concept of neighbourhood schools to promote inclusivity and reduce segregation by caste, creed, or economic status. The commission recommended school complexes or clusters for resource sharing and brought into light the need for higher primary schools within reachable distances to reduce dropout rates. It shaped subsequent education policies, including the 1986 National Policy on Education. The commission's recommendations remain influential in Indian education reforms and infrastructure planning.

Why in news?

The Kothari Commission's concept of neighbourhood schools and school complexes is cited in debates around UP's school mergers and resource rationalization under NEP 2020.

Krishi Sah'AI'yak

Krishi Sah'AI'yak is an AI-powered conversational assistant providing personalized agricultural advisory in multiple Indic languages. Developed by Samagra Development Associates Pvt. Ltd, it serves smallholder farmers by delivering localized, context-aware farming advice using natural language interfaces. The assistant supports decision-making on crop management, pest control, and soil health. It enhances accessibility for farmers with limited literacy or technology exposure by enabling voice-based interactions in regional languages, helping improve productivity and sustainability in agriculture through AI-driven, real-time advisory services.

Why in news?

Krishi Sah'AI'yak is featured as part of the IndiaAI Application Development Initiative focusing on AI solutions that assist farmers with personalized, multilingual agricultural advisory services.

Ministry of Development of North Eastern Region (MoDoNER)

The Ministry of Development of North Eastern Region (MoDoNER) is a Government of India ministry established in 2001 to accelerate economic and social development in the eight northeastern states. It coordinates with central ministries, state governments, and autonomous bodies for infrastructure, connectivity, and livelihood projects. MoDoNER supports regional planning, promotes investment, and facilitates implementation of flagship schemes like the Aspirational Districts Programme. The ministry also collaborates with international agencies such as UNDP to monitor development goals. It is headquartered in Shillong, Meghalaya, and plays a key role in integrating the Northeast with the national economy.

Why in news?

MoDoNER co-released the 2023-24 North Eastern Region District SDG Index with NITI Aayog and UNDP, denoting its role in sustainable development and resource allocation in the region.

Ministry of Skill Development and Entrepreneurship (MSDE)

The Ministry of Skill Development and Entrepreneurship (MSDE) was established in 2014 to coordinate skill development efforts across India. It formulates policies and implements programs to enhance vocational training and entrepreneurship. MSDE oversees initiatives like the Pradhan Mantri Kaushal Vikas Yojana (PMKVY) and collaborates with industries to align training with market needs. The ministry promotes lifelong learning, supports startups, and encourages public-private partnerships. Shri Jayant Chaudhary serves as the Minister of State (Independent Charge) as of 2025. MSDE plays a critical role in bridging the gap between education and employment in India's rapidly evolving economy.

Why in news?

MSDE, led by Shri Jayant Chaudhary, provided official information on the India Skills Accelerator during a Rajya Sabha written reply on April 8, 2025.

NAMASTE Scheme

The **NAMASTE scheme** was launched by the Government of India in July 2023 to address hazardous sewer and septic tank cleaning and support waste pickers. It has identified **84,902 sewer and septic tank workers** across **36 States and Union Territories**. Over half of these workers have received **PPE kits and safety gear**. Capital subsidies worth over **₹20 crore** have been provided to **707 sanitation workers**. Approximately **1,000 workshops** have been conducted nationwide on hazardous cleaning prevention. The scheme aims to replace manual scavenging with mechanized cleaning and improve worker safety.

Why in news?

The scheme was brought into light following a social audit revealing poor safety conditions and deaths of sanitation workers during sewer cleaning in 2022-2023.

Namo Drone Didi Scheme

The **'Namo Drone Didi'** is a Central Sector Scheme launched to distribute 15,000 drones to Women Self Help Groups (SHGs) from 2023-24 to 2025-26, with a budget of Rs. 1261 Crores. It provides **80% Central Financial Assistance** up to Rs. 8.00 lakhs per drone package. Training includes 15 days for drone pilots and 5 days for assistants. The scheme aims to promote advanced agricultural technology, increase crop yield, and empower women SHGs as drone service providers. It includes provisions for multi-utility machines to solve drone transportation issues faced by beneficiaries.

Why in news?

The government approved the scheme to support women SHGs with drones, enhancing agricultural efficiency and income through technology-driven farming practices.

National Dairy Development Board (NDDB)

The NDDB is an autonomous institution established in 1965 by the Government of India to

promote dairy development. It pioneered the White Revolution, making India the world's largest milk producer. NDDB supports dairy cooperatives by providing technical assistance, funding, and policy guidance. It collaborates with state-level cooperatives like WAMUL to improve infrastructure, milk production, and farmer incomes. The board also focuses on strengthening dairy value chains, enhancing processing capacities, and encouraging sustainable practices. NDDB's initiatives have contributed to rural development and poverty alleviation through dairy farming.

Why in news?

NDDB is partnering with WAMUL in a major project to expand Assam's dairy processing capacity and improve market access for local farmers.

Onge Tribe

The Onge are a Particularly Vulnerable Tribal Group (PVTG) indigenous to Little Andaman Island in the Andaman and Nicobar Islands. Their population is critically small, with approximately 140 individuals residing mainly in reserved forest areas like Dugong Creek. Traditionally hunter-gatherers, they have rich knowledge of forest resources and produce coconut-based products. The Onge language is part of the Ongan language family. They face challenges of cultural preservation, health, and education. Recent efforts focus on economic empowerment and education, with nine Onge students recently passing the CBSE class 10 exam for the first time.

Why in news?

The Onge tribe is benefiting from a new VDVK initiative that supports their traditional coconut product-making practices and promotes education and economic self-reliance.

PM E-DRIVE Scheme

The **PM E-DRIVE scheme** is an Government of India initiative aimed at promoting the local manufacturing of electric vehicle components, especially for two- and three-wheelers. It mandates phased manufacturing programmes (PMP) to increase domestic production of key parts like traction motors and electronic throttles. Financial incentives are provided to manufacturers who meet specific localisation milestones. The scheme targets reducing dependency on imports, particularly rare earth magnets and other critical components, to strengthen the supply chain and boost the electric vehicle ecosystem in India. It also involves strict compliance and declarations by manufacturers to ensure adherence to the rules.

Why in news?

The Ministry of Heavy Industries has enforced compliance with the PM E-DRIVE scheme following China's export restrictions on rare earth magnets, requiring manufacturers to confirm adequate inventory and local production of key components.

PM Gati Shakti

PM Gati Shakti is an Government of India initiative launched in 2021 aimed at integrated infrastructure planning and coordinated implementation across multiple ministries and states. It uses a digital platform to map and monitor projects in sectors like roads,

railways, ports, and logistics to reduce delays and improve efficiency. The program focuses on multimodal connectivity to boost manufacturing and exports by reducing logistics costs and transit times. It integrates over 16 ministries and departments, facilitating synchronized decision-making and resource allocation. PM Gati Shakti is a central part of India's strategy to enhance infrastructure and support rapid economic growth.

Why in news?

The report mentions PM Gati Shakti as a key central scheme contributing to the expansion of India's infrastructure alongside state initiatives.

PM Jan Dhan Yojana

Launched in 2014, **PM Jan Dhan Yojana** is India's national financial inclusion program aimed at expanding affordable access to banking services. It provides zero-balance bank accounts, debit cards, and overdraft facilities to the unbanked population. As of 2025, over 450 million accounts have been opened under this scheme. It integrates with Direct Benefit Transfer (DBT) to deliver subsidies and welfare payments directly to beneficiaries, reducing leakage. The initiative also promotes digital transactions and insurance coverage. It is considered one of the largest financial inclusion programs globally by the number of accounts opened.

Why in news?

The scheme is credited with helping reduce income inequality in India by improving financial access and facilitating welfare distribution.

PM Surya Ghar Scheme

The **PM Surya Ghar – Muft Bijli Yojana**, launched in 2024, is an Government of India program aimed at promoting rooftop solar installations. It targets providing solar energy to one crore (10 million) households, encouraging decentralized energy generation. The scheme enables citizens to become energy owners by generating their own electricity, reducing reliance on the grid. It supports India's clean energy transition by expanding solar access at the household level, contributing to energy equity and sustainability goals. The program has accelerated the rooftop solar revolution in India, promoting clean energy adoption across urban and rural areas.

Why in news?

PM Surya Ghar is mentioned as a flagship initiative driving India's rapid progress toward 50% non-fossil fuel installed capacity through widespread decentralized solar energy adoption.

PM-SHRI Schools

PM-SHRI (Prime Minister's Schools for Rising India) schools are a new model of public schools launched under NEP 2020 to provide high-quality education with modern infrastructure and trained teachers. These schools aim to set benchmarks in learning outcomes, holistic development, and equity. States must sign Memorandums of About (MoUs) with the Centre to establish PM-SHRI schools, adopting NEP's curriculum and

pedagogical reforms. Kerala, Tamil Nadu, and West Bengal have refused to sign MoUs, citing concerns over autonomy and NEP mandates. The Centre has linked Samagra Shiksha funding to states' adoption of PM-SHRI guidelines.

Why in news?

PM-SHRI schools are central to NEP's implementation, but some states have resisted joining the scheme, causing funding and policy disputes.

POSHAN Abhiyaan

POSHAN Abhiyaan is a flagship nutrition mission launched by the Government of India in 2018 aimed at improving nutritional outcomes for children, pregnant women, and lactating mothers. It focuses on reducing stunting, undernutrition, anemia, and low birth weight through a convergence approach involving multiple ministries. The program uses digital tools like the POSHAN Tracker app for real-time data collection by Anganwadi workers. It integrates with the Integrated Child Development Services (ICDS) scheme and emphasizes behavioral change communication, capacity building, and service delivery at Anganwadi Centres. The initiative targets children aged 6-36 months and women in reproductive age groups.

Why in news?

From July 1, 2025, POSHAN Abhiyaan mandated facial recognition for beneficiaries to access take-home rations, raising concerns about exclusion and operational issues.

Postal Export Centres

India Post has established around **1,000 postal export centres** in the last 10 months to support small businesses and entrepreneurs. These centres facilitate international shipping and export documentation, simplifying the process for micro, small, and medium enterprises (MSMEs). They provide affordable, reliable logistics solutions and help integrate local producers into global supply chains. The centres also offer advisory services on export compliance and customs procedures. This initiative aligns with government efforts to boost exports from grassroots levels and empower local economies through improved access to global markets.

Why in news?

The expansion of postal export centres was brought into light by the Union Minister as a key step in empowering small businesses and enhancing India Post's role in international trade facilitation.

Pradhan Mantri Kisan Sampada Yojana

Pradhan Mantri Kisan Sampada Yojana (PMKSY) is a government scheme launched in 2017 to develop the food processing sector in India. It aims to create modern infrastructure for food processing, reduce wastage, and increase farmers' income by enhancing value addition. The scheme covers various components such as mega food parks, cold chain infrastructure, agro-processing clusters, and food safety measures. It provides financial assistance through grants and subsidies to entrepreneurs and companies. PMKSY also promotes employment generation and supports small and medium enterprises. The

scheme is implemented by the Ministry of Food Processing Industries.

Why in news?

PMKSY was brought into light by the Union Minister during the World Food India 2025 event's curtain raiser as a key initiative to boost the food processing sector in India.

Pradhan Mantri Surya Ghar Muft Bijli Yojana

The Pradhan Mantri Surya Ghar Muft Bijli Yojana is a central government scheme launched in February 2024 to provide rooftop solar panel installations to one crore households by 2026-27. It has a budget allocation of **Rs 75,021 crore**. The scheme offers subsidies ranging from **40 to 60 percent** for residential solar installations. As of July 2025, over **15.45 lakh households** have benefitted, with a total installed capacity of **4.8 Gigawatts**. The scheme operates on a demand-driven model via a National Portal, which has recorded **57 lakh applications** and **12.7 lakh completed installations**.

Why in news?

The scheme's progress and uneven implementation across states were discussed in the Indian Parliament in July 2025, denoting leading states like Gujarat and Maharashtra and lagging states such as Jharkhand and West Bengal.

Pradhan Mantri Virasat Ka Samvardhan (PM VIKAS)

The **Pradhan Mantri Virasat Ka Samvardhan (PM VIKAS)** scheme is a government initiative aimed at the socio-economic development of India's six notified minority communities. It integrates earlier skilling and education programs into a single platform. The scheme focuses on providing skill training, entrepreneurship development, and employment linkages to minority youth and women. It supports future-ready skills such as Internet of Things (IoT) and leadership training. PM VIKAS also offers stipends during training and connects beneficiaries to industry opportunities. The scheme is implemented nationwide through various institutions, including IIIT Kottayam.

Why in news?

PM VIKAS scheme is launching a new skill training and women entrepreneurship development project at IIIT Kottayam, targeting 450 candidates from minority communities in Kerala.

Pre-Conception and Pre-Natal Diagnostic Techniques (PCPNDT) Act

The **PCPNDT Act**, enacted in India in 1994, prohibits sex selection before or after conception to prevent female foeticide. It regulates diagnostic techniques like ultrasound to detect genetic abnormalities but forbids their use for determining the sex of the fetus. The Act mandates registration of clinics and strict monitoring to curb misuse. Violations carry penalties including fines and imprisonment. It aims to address the skewed child sex ratio caused by cultural preference for male children. Enforcement varies regionally, with Maharashtra being a key state for implementation and advocacy efforts.

Why in news?

The PCPNDT Act was referenced in relation to Varsha Deshpande's work in enforcing and promoting legal reforms under this law to combat gender-biased sex selection in India.

Primary Agricultural Cooperative Societies (PACS)

Primary Agricultural Cooperative Societies (PACS) are grassroots cooperative institutions operating primarily at the panchayat or village level in India. They provide affordable credit and other financial services to farmers and rural communities. PACS form the base of the three-tier cooperative credit structure, feeding into District Credit Cooperative Banks and State Cooperative Banks. They have over **130 million members** and are crucial in supporting agricultural credit needs. PACS also supply inputs like seeds and fertilizers and facilitate marketing of farm produce. They are regulated by state cooperative laws and often face challenges related to financial sustainability and governance.

Why in news?

The new national cooperative policy emphasizes strengthening PACS as part of the three-tier cooperative credit system to enhance rural credit availability and improve cooperative governance.

Quality Council of India (QCI)

The **Quality Council of India (QCI)** was established in 1997 to promote quality standards in various sectors across India. It is a joint initiative of the Government of India and the Indian industry, represented by the three premier industry associations – FICCI, CII, and ASSOCHAM. QCI acts as an accreditation body and conducts **third-party assessments** to ensure compliance with quality benchmarks. It has developed national quality standards in education, healthcare, and manufacturing. QCI also partners with governments to implement quality assurance schemes, such as the school kit quality checks mentioned in Andhra Pradesh.

Why in news?

QCI partnered with the Andhra Pradesh government to conduct three-layer quality checks on materials used in the Sarvepalli Radhakrishnan Vidyarthi Mitra Kits.

Raji Tribe

The **Raji tribe** is an indigenous group primarily found in Uttarakhand's Pithoragarh and Champawat districts, with a population under 1,000. Historically nomadic hunter-gatherers, they relied on forests for sustenance and practiced a unique silent trade system. Their population has fluctuated, with a recent count around 622, but high child mortality rates (70%) due to malnutrition and exposure persist. They face severe socio-economic, educational, and political marginalization. Remote settlements lack basic amenities like electricity, clean water, roads, and healthcare. Cross-border migration to Nepal and genetic issues from intermarriage affect their demographic stability.

Why in news?

The Raji tribe's exclusion from local elections due to educational requirements marks their ongoing marginalization and the urgent need to address their social and political challenges.

Rashtriya Vayoshri Yojana (RVY)

The Rashtriya Vayoshri Yojana is a government scheme launched in 2017 to provide free

assistive devices to senior citizens living below the poverty line with age-related disabilities. Devices include walking sticks, hearing aids, spectacles, wheelchairs, and artificial limbs. The scheme is implemented through identified centers like PMDKs and aims to improve the quality of life and mobility of elderly beneficiaries. It is funded by the Ministry of Social Justice & Empowerment and managed in partnership with ALIMCO for manufacturing and distribution. RVY targets last-mile delivery to rural and remote areas.

Why in news?

The new PMDK center at Badaun will distribute assistive devices under the Rashtriya Vayoshri Yojana, enhancing accessibility for senior citizens in the region.

Sample Registration System (SRS)

The **Sample Registration System (SRS)** is a demographic survey program in India that provides annual estimates of fertility, mortality, and population growth at national and state levels. It uses a dual record system with continuous enumeration and independent surveys to generate statistically reliable data. SRS data is used to complement the CRS by estimating under-registration and demographic trends. It covers a representative sample of households and is the largest demographic survey in India, critical for health and population policy planning. SRS data is periodically compared with CRS data to identify gaps in birth and death registration.

Why in news?

SRS estimates are compared with CRS data to show gaps in birth registration in states like Bihar, Uttar Pradesh, and Andhra Pradesh, indicating under-reporting issues.

Savitribai Phule

Savitribai Phule (1831–1897) was a pioneering Indian social reformer and poet, widely regarded as the first female teacher of modern India. She and her husband, Jyotirao Phule, founded the first girls' school in Pune in 1848. She worked extensively to promote women's education and fought against caste discrimination and child marriage. Savitribai also established care centers for pregnant rape victims and opened the first indigo removal center for women. Her efforts laid the foundation for women's rights and education reform in India. She is commemorated annually on January 3, known as Savitribai Phule Jayanti.

Why in news?

The National Institute of Public Cooperation and Child Development (NIPCCD) was renamed after Savitribai Phule to honor her legacy and emphasize women and child development in India.

Sickle Cell Anaemia in Tribal Communities

Sickle cell anaemia is a hereditary blood disorder prevalent among various tribal communities in India, including those in Gujarat. It is caused by a mutation in the hemoglobin gene, leading to abnormally shaped red blood cells that impair oxygen transport. Symptoms include anemia, pain crises, and organ damage. Tribal populations often have higher carrier rates due to genetic isolation and endogamy. Early diagnosis

and intervention can reduce complications. The disease's prevalence in Gujarat's tribes has prompted targeted healthcare initiatives, including genome sequencing to identify carriers and affected individuals for precision treatment and genetic counseling.

Why in news?

The Tribal Genome Sequencing Project in Gujarat focuses on detecting genetic disorders such as sickle cell anaemia to enable early intervention in tribal populations.

State Adoption Resource Agencies (SARAs)

State Adoption Resource Agencies (SARAs) are state-level bodies designated by CARA to implement adoption-related policies and procedures within their jurisdictions. SARAs coordinate with district-level adoption agencies and ensure compliance with the Juvenile Justice Act and Adoption Regulations. They maintain records of children eligible for adoption and prospective adoptive parents, facilitate matching, and oversee post-adoption follow-ups. SARAs also empanel qualified counsellors to provide mandatory counselling services during pre-adoption, adoption, and post-adoption stages. Their role is crucial in decentralizing adoption governance and providing localized support and monitoring of adoption cases in India.

Why in news?

SARAs have been directed by CARA to strengthen and institutionalize structured counselling services at district and state levels as part of new adoption guidelines issued in July 2025.

Sukanya Samriddhi Scheme

The **Sukanya Samriddhi Yojana** is a government savings scheme launched in 2015 aimed at the welfare of the girl child. It allows parents or guardians to open an account in the name of a girl child below 10 years of age. The account matures after 21 years from the date of opening or upon marriage after 18 years of age. Contributions qualify for tax deduction under Section 80C. The scheme offers one of the highest interest rates among small savings instruments, compounded annually, and partial withdrawal is permitted for the girl's education or marriage after she turns 18.

Why in news?

The Sukanya Samriddhi Scheme's interest rate remains steady at 8.2% for the quarter starting July 2025, reflecting the government's continued support for girl child welfare.

UDISE+ Portal

The Unified District Information System for Education Plus (UDISE+) is a comprehensive database system launched by the Government of India to collect and monitor real-time data on school education. It covers all government and private schools, tracking enrolment, infrastructure, teacher availability, and learning outcomes. UDISE+ replaced the earlier UDISE system to improve data accuracy and timeliness. It enables policymakers to identify trends such as declining enrolment, teacher shortages, and school closures. The portal supports evidence-based decision-making and resource allocation. UDISE+ data is publicly accessible and updated annually, serving as a key tool for assessing the

implementation of educational policies.

Why in news?

UDISE+ data reveals a decline in government school numbers and enrolment in UP and other states, influencing decisions on school mergers and resource optimization.

Ujjwala Yojna

The **Pradhan Mantri Ujjwala Yojna** was launched in 2016 to provide LPG connections to women from below poverty line households. It aims to replace traditional cooking fuels with cleaner LPG to reduce health hazards from indoor air pollution. By 2025, over 10 crore LPG connections have been distributed under this scheme. The scheme also promotes women's empowerment by linking LPG subsidies directly to beneficiaries' bank accounts. It requires Aadhaar authentication for beneficiary verification. The scheme has contributed to reducing respiratory diseases in rural areas by promoting the use of cleaner fuel alternatives to wood or coal.

Why in news?

Ujjwala Yojna beneficiaries will undergo fresh Aadhaar-based KYC verification as part of a broader audit of DBT recipients under central welfare schemes before the 2026 Finance Commission cycle.

Unified Pension Scheme (UPS)

The **Unified Pension Scheme (UPS)** is an option under the National Pension System (NPS) introduced for central government employees covered by NPS. It provides assured payouts to subscribers, differing from the market-linked returns of NPS. Eligibility includes employees who have superannuated, passed away, or retired under Fundamental Rules 56(j), with at least ten years of NPS qualifying service. As of July 2025, only 1.37% of eligible employees opted for UPS. Claims can be made by retired employees, with payments processed to those approved. The scheme aims to enhance pension security for government workers.

Why in news?

The finance ministry reported low uptake of UPS among central government employees, extending the deadline to September 2025 to encourage more subscriptions and processing claims from retired employees.

Universal Immunization Programme

The **Universal Immunization Programme (UIP)** is one of the largest public health initiatives globally, launched in India in 1985. It provides free vaccines against 12 vaccine-preventable diseases, including tuberculosis, polio, diphtheria, pertussis, tetanus, measles, and hepatitis B. The UIP reaches approximately 2.9 crore pregnant women and 2.6 crore infants annually. The program uses a network of over 25,000 cold chain points to maintain vaccine potency. It also incorporates new vaccines periodically, such as the pneumococcal conjugate vaccine introduced in recent years. The UIP is coordinated by the Ministry of Health and Family Welfare in collaboration with WHO and UNICEF.

Why in news?

The UIP is brought into light due to India's reduction in under-five mortality and neonatal

mortality rates, credited largely to expanded vaccine coverage under this program in 2024-2025.

Van Dhan Vikas Kendra

Van Dhan Vikas Kendra (VDVK) is an initiative under the Ministry of Tribal Affairs, aimed at enhancing tribal livelihoods by promoting sustainable forest-based products. Registered under the Societies Registration Act, 1860, VDVKs provide training, tools, and market access to tribal communities. They focus on value addition of traditional products, such as copra and virgin coconut oil, using modern machinery like cold-press extraction units. The program supports economic empowerment by integrating traditional knowledge with contemporary production and marketing techniques, encouraging self-sustainability among vulnerable tribal groups across India.

Why in news?

A VDVK was established at Dugong Creek for the Onge tribe in Little Andaman to promote self-sustainability through coconut-based products under the Pradhan Mantri Janjati Adivasi Nyay Maha Abhiyan.

Viksit Bharat 2047

Viksit Bharat 2047 is an ambitious development vision announced by India aiming to transform the nation by its 100th year of independence in 2047. It focuses on economic growth, technological advancement, social inclusion, and sustainable development. The vision integrates infrastructure modernization, digital empowerment, and environmental sustainability. It emphasizes inclusive growth across all states and sectors, including sports, education, and healthcare. The plan seeks to elevate India's global standing through innovation and cultural diversity. It aligns with India's Olympic bid for 2036, projecting the Games as a catalyst for national progress and regional influence.

Why in news?

India's 2036 Olympic bid references Viksit Bharat 2047 as a framework for leveraging the Games to accelerate development and showcase India's transformation on the global stage.

WaveX Accelerator

The **WaveX Accelerator** is a government-backed program launched under the WAVES initiative to promote innovation in media, entertainment, and language technology sectors in India. It provides startups with mentorship, workspace, and development assistance until their solutions are fully developed and deployed. The accelerator focuses on scalable, affordable AI-based solutions and encourages the use of open-source or low-cost AI models. It supports startups through hackathons, incubation, and integration opportunities with national platforms. WaveX aims to encourage inclusive communication technologies sensitive to India's linguistic diversity across multiple languages.

Why in news?

WaveX Accelerator is in the news for launching the WAVEX Startup Challenge 2025, inviting startups to develop AI-based multilingual translation solutions under its flagship

program.

Zero-Dose Infants

Zero-dose infants are children who have not received any routine vaccinations, representing a critical gap in global immunization coverage. In 2024, over **14 million infants worldwide** fell into this category, with more than half concentrated in nine countries including Nigeria, and Sudan. These infants are particularly vulnerable to life-threatening diseases and contribute to the risk of outbreaks. The term marks challenges in healthcare access, especially in conflict-affected or unstable regions. Despite some countries achieving high overall vaccine coverage, the absolute numbers of zero-dose children remain and impede progress toward Immunization Agenda 2030 goals.

Why in news?

The 2024 WHO and UNICEF report revealed a rise to 14 million zero-dose infants, emphasizing the need for targeted funding and improved vaccine delivery in fragile states to meet global immunization targets.

Defence

Akash Prime

The **Akash Prime** is an upgraded variant of the Akash Weapon System, designed specifically for the Indian Army's high-altitude operations above 4,500 meters. It features an **indigenously developed Radio Frequency seeker** to enhance target acquisition and tracking. The system has undergone upgrades based on operational feedback to improve effectiveness against aerial threats. It is capable of destroying aerial high-speed unmanned targets and is developed in collaboration with DRDO, Bharat Dynamics Limited, and Bharat Electronics Limited. Akash Prime represents advancement in India's indigenous air defense missile technology.

Why in news?

Akash Prime successfully destroyed two high-speed unmanned aerial targets at high altitude in Ladakh during its first production model firing trial on July 16, 2025, marking a milestone for India's air defense capabilities.

Anti-Submarine Warfare Shallow Water Craft (ASW SWC)

The ASW SWC is a class of warships designed specifically for anti-submarine operations in shallow coastal waters. These vessels are equipped with advanced sensors like Hull Mounted Sonar and Low Frequency Variable Depth Sonar (LFVDS) to detect underwater threats. Their armament includes torpedoes, anti-submarine rockets, and guns such as the NSG-30 and 12.7 mm SRCG. Powered by diesel engines and propelled by waterjets, these ships prioritize agility and stealth. With over 80% indigenous content, they represent stride in self-reliant naval defense manufacturing under India's Aatmanirbhar Bharat initiative.

Why in news?

The eighth and final ship of the ASW SWC class, Yard 3034 (Ajay), was launched on 21 July 2025, marking a milestone in India's indigenous naval shipbuilding efforts by GRSE.

ASTRA Missile

The **ASTRA** is an indigenously developed Beyond Visual Range (BVR) air-to-air missile by India's DRDO. It has a range of approximately 110 km and uses an active radar seeker for target tracking. The missile is designed for supersonic speeds and high maneuverability, capable of engaging multiple aerial targets in all weather conditions. It can be launched from various fighter aircraft, including the Tejas Mk-1A. Testing for integration with the LCA Mk-1A is ongoing. ASTRA enhances the air combat capability of the Indian Air Force with indigenous technology.

Why in news?

Testing of the ASTRA missile firings from the Tejas Mk-1A aircraft is underway, complementing the aircraft's upgraded weapon systems and enhancing its combat capabilities.

Diving Support Vessel (DSV)

A Diving Support Vessel (DSV) is a specialized ship designed to support underwater diving operations, particularly deep-sea and saturation diving missions. DSVs are equipped with advanced diving complexes, decompression chambers, and life-support systems to enable prolonged underwater work. They often assist in submarine rescue, underwater construction, and salvage operations. These vessels maintain diving bells and remotely operated vehicles (ROVs) to facilitate safe and efficient underwater tasks. The DSV's design ensures operational safety in challenging marine environments, and they are critical assets for naval and commercial underwater missions requiring precise and sustained human intervention at depth.

Why in news?

The Indian Navy commissioned its first indigenous Diving Support Vessel, 'Nistar', to undertake deep-sea diving and submarine rescue operations.

Divya Drishti Exercise

'**Divya Drishti**' is a high-altitude technology demonstration exercise conducted by the Indian Army to evaluate next-generation battlefield surveillance, decision-making, and communication technologies. The exercise focuses on integrating UAVs, drones, ground platforms, and AI-enabled sensors for real-time data sharing and enhanced sensor-to-shooter connectivity. It is designed to simulate realistic operational scenarios in mountainous terrain, improving rapid response capabilities. The exercise supports the Indian Army's Decade of Transformation roadmap and the Atmanirbhar Bharat initiative, emphasizing self-reliance in defense technology. It is a key step in modernizing the Indian Army's tactical and operational doctrines.

Why in news?

The 'Divya Drishti' exercise was conducted in east Sikkim in July 2025, showcasing the Indian Army's advancements in battlefield awareness and AI-enabled sensor integration.

Exercise Bold Kurukshetra

Exercise Bold Kurukshetra is a biennial joint military exercise between India and

Singapore, initiated in 1993 to enhance interoperability and cooperation between the two armies. It focuses on mechanized infantry tactics, armored warfare, and joint operational planning. The exercise often includes table-top simulations and computer-based wargames to validate operational procedures. It is conducted under the **United Nations mandate** to promote peacekeeping and multinational operational readiness. The exercise also features equipment displays and ceremonial activities like regimental flag handovers to symbolize command transfer and military camaraderie between the participating forces.

Why in news?

The 14th edition of Exercise Bold Kurukshetra 2025 is scheduled from July 2025 to August 4, 2025, in Jodhpur, involving mechanized units from India and Singapore.

Exercise Drone Prahar

Exercise Drone Prahar is a military drill conducted by the Indian Army to validate the integration of drone technology in tactical battlefield operations. It emphasizes intelligence, surveillance, reconnaissance, and real-time sensor-to-shooter coordination. The exercise tests airspace deconfliction, secure communication channels, and coordination protocols among various military arms and services. It aims to enhance command reach and situational awareness for tactical commanders through layered surveillance. The exercise reflects the Indian Army's efforts to modernize its combat capabilities and adopt emerging technologies for operational superiority in future conflicts.

Why in news?

Exercise Drone Prahar was recently conducted to demonstrate and evaluate the Indian Army's use of drones in battlefield scenarios, marking modernization step.

Exercise Lion King

Exercise Lion King was the original name for the annual bilateral naval exercise between the Indian Navy and the Republic of Singapore Navy before it was renamed SIMBEX (Singapore-India Maritime Bilateral Exercise). It began in 1994 and is one of the longest-running uninterrupted maritime drills India has conducted with any country. The exercise includes complex naval maneuvers such as anti-submarine warfare, air defense, and search and rescue operations. It enhances interoperability and strategic partnership between the two navies. The name change to SIMBEX reflects a broader and more formalized engagement framework.

Why in news?

The 32nd edition of SIMBEX is scheduled in Singapore, continuing the legacy of Exercise Lion King and strengthening India-Singapore maritime ties.

Exercise Suraksha Chakra

Exercise Suraksha Chakra is a multi-agency emergency preparedness drill conducted in the National Capital Region (NCR) of India. It involves **18 districts across Delhi, Haryana, and Uttar Pradesh** and aims to enhance coordination among agencies like the National

Disaster Response Force (NDRF), armed forces, civil defence, and Delhi Police. The exercise simulates major disasters such as earthquakes and chemical emergencies. It includes activities like simulated rescues, casualty evacuations, and medical aid. The drill is conducted in phases, including a symposium, tabletop exercise (TTEx), and a full-scale field drill. It promotes a **whole-of-government approach** to disaster management.

WHY IN NEWS?

The national capital region is hosting the Exercise Suraksha Chakra mock drill to test and improve emergency response capabilities for earthquakes and chemical disasters in late July and early August 2025.

Ezhimala Naval Academy

The Ezhimala Naval Academy, officially known as the Indian Naval Academy (INA), is Asia's largest naval training institution located near Kannur, Kerala. It was established in 2009 and spans over 2,400 acres. The academy trains officers for the Indian Navy and Indian Coast Guard. It is equipped with state-of-the-art simulators, training vessels, and sports facilities. The campus is situated near ecologically sensitive coastal hills and forests, making it a unique blend of military infrastructure and biodiversity hotspot. The academy contributes to local conservation awareness through environmental initiatives.

WHY IN NEWS?

The Great Hornbill was seen flying towards the forecasted campus area of the Ezhimala Naval Academy, drawing attention to the ecological importance of the academy's surrounding coastal hill region.

Fast Patrol Vessel (FPV)

Fast Patrol Vessels (FPVs) are small, agile ships designed for coastal surveillance, search and rescue, and interdiction missions. Typically 40-60 meters in length, FPVs combine speed and maneuverability with moderate armament and sensor suites. They play critical roles in anti-smuggling, anti-piracy, and maritime law enforcement. The FPV launched by GSL measures 52 meters in length, has an 8-meter beam, and displaces 320 tonnes. These vessels support island security and offshore asset protection. FPVs are often indigenously designed to meet specific operational requirements of the Indian Coast Guard and align with national defense manufacturing goals.

WHY IN NEWS?

The Indian Coast Guard's newly launched FPV, ICGS Atal, will enhance coastal patrol and offshore security capabilities amid rising maritime challenges.

Hindon Airbase

Hindon Airbase, located near Ghaziabad in Uttar Pradesh, is one of the largest and busiest airbases of the Indian Air Force. It serves as a key logistical and operational hub for military aviation. The base supports various fighter squadrons and helicopter units and has strategic importance due to its proximity to the national capital, New Delhi. Hindon also hosts the annual Air Force Day parade and is equipped with modern infrastructure, including maintenance and training facilities. It has been used for both military and

humanitarian operations, including disaster relief and evacuation missions.

Why in news?

The first batch of Apache AH-64E helicopters for the Indian Army arrived at Hindon Airbase, denoting the base's role in supporting advanced military aviation assets.

Indo-Tibetan Border Police (ITBP) 43rd Battalion

The 43rd Battalion of the Indo-Tibetan Border Police (ITBP) is deployed at Shipki-La to oversee border security and monitor civilian activities. The ITBP was established in 1962 following the Sino-Indian War and specializes in high-altitude mountain warfare and border surveillance. The 43rd Battalion operates in extreme weather and rugged terrain, enforcing strict regulations to prevent border incidents. They escort tourists in small groups and regulate activities at sensitive points like the Zero Point. The ITBP also coordinates with the Indian Army to maintain peace along the LAC.

Why in news?

The 43rd Battalion is managing the influx of tourists at Shipki-La, ensuring no unsupervised access to the border and preventing any diplomatic incidents with China during the new border tourism initiative.

INS Dega

INS Dega is a naval air station located in Visakhapatnam, Andhra Pradesh. Commissioned in 1991, it serves as a base for Indian Naval Air Arm operations, primarily housing maritime reconnaissance, fighter aircraft, and helicopters. INS Dega supports naval aviation training, maintenance, and operational sorties in the eastern seaboard of India. It plays a critical role in the Indian Navy's Eastern Fleet, enabling surveillance and defense over the Bay of Bengal and the Indian Ocean. The base has undergone upgrades to accommodate modern fighter jets like the MiG-29K and is integral to India's maritime security strategy in the region.

Why in news?

INS Dega hosted the Winging Ceremony where Sub Lieutenant Aastha Poonia was awarded the 'Wings of Gold' and streamed into the fighter stream, marking a historic milestone for women in Indian Naval Aviation.

INS Nistar (1969)

The original **INS Nistar** was a submarine rescue vessel acquired from the Soviet Union and commissioned in 1971. It served until 1989, acting as the Navy's primary platform for diving and submarine rescue operations. The vessel was very important during Cold War-era underwater missions and helped establish India's early submarine rescue capabilities. It had a displacement of around 800 tonnes and was equipped with basic diving support systems of that time. The name "Nistar" translates to "rescue" or "deliverance" in Hindi, emphasizing its core mission. It was decommissioned as India sought more advanced and indigenous solutions for underwater rescue.

Why in news?

The new INS Nistar, commissioned in 2025, carries forward the legacy of the original 1971 vessel, marking upgrade in India's indigenous submarine rescue and diving support

capabilities.

INS Sandhayak

INS Sandhayak is the lead ship of the Sandhayak-class hydrographic survey vessels, indigenously designed and built by India. Commissioned in **February 2024**, it features full-scale coastal and deep-water surveying capabilities. The ship collects oceanographic data and supports **Search and Rescue (SAR)** and humanitarian missions with onboard helicopter and hospital facilities. It operates under the Indian Naval Hydrographic Department and the National Hydrographic Office, enhancing India's maritime surveying and data collection. The vessel represents step in India's self-reliance in naval hydrography and regional maritime cooperation.

Why in news?

INS Sandhayak made its maiden port call at Port Klang, Malaysia, in July 2025 for hydrographic cooperation and technical exchanges, denoting India's growing regional maritime collaboration.

INSAS Rifle

The **INSAS (Indian Small Arms System)** rifle was the standard assault rifle of the Indian Armed Forces before the introduction of the AK-203. Developed in India, it faced criticism for reliability issues in extreme weather and combat conditions. It fires the **5.56×45mm NATO cartridge** and was introduced in the late 1990s. The rifle was manufactured by the Ordnance Factories Board in India. Its replacement by the AK-203 marks shift in India's infantry weaponry towards a more robust and battle-tested platform.

Why in news?

INSAS is mentioned as the rifle being replaced by the AK-203, reflecting modernization efforts in India's military small arms inventory.

Javelin Missile

The **Javelin** is a third-generation anti-tank guided missile (ATGM) developed by **Raytheon and Lockheed Martin**. It uses fire-and-forget technology, allowing the operator to relocate immediately after launch. The missile employs an **infrared seeker** for target acquisition and can engage targets from a top-attack trajectory, penetrating modern armor. Its range is approximately **2.5 kilometers**. The missile system is shoulder-fired and designed for infantry use in difficult terrains. It is widely used by the U.S. military and allied forces globally. Production began in the late 1990s, and it has undergone continuous upgrades.

Why in news?

India has submitted a request to the U.S. for co-production of Javelin missiles to enhance its anti-tank capabilities and reduce foreign dependency, aligning with the 'Make in India' initiative.

Light Combat Aircraft Mark-1A (LCA Mk-1A)

The **LCA Mk-1A** is an advanced variant of India's indigenous Tejas fighter jet, designed by HAL. It features an AESA radar, advanced electronic warfare systems, and integration of

Derby and ASTRA missiles. The aircraft has improved avionics, enhanced survivability, and better maintainability compared to the Mk-1. It is intended to replace aging MiG-21 squadrons in the Indian Air Force. Production aims to deliver 83 aircraft initially, with a proposal for 97 more. The Mk-1A is a single-engine, lightweight, multirole fighter optimized for air defense and ground attack roles.

WHY IN NEWS?

The Indian Air Force is receiving LCA Mk-1A jets powered by GE-F404 engines, with deliveries delayed by over a year but expected to ramp up, addressing squadron strength concerns.

Multi-domain Operations

Multi-domain operations (MDO) refer to integrated military strategies that synchronize capabilities across multiple domains – land, sea, air, space, and cyber. MDO aims to create operational advantages by coordinating actions simultaneously in these domains to overwhelm adversaries. The concept has evolved to address modern warfare challenges, including cyber threats and space-based assets. Exercises like TALISMAN SABRE incorporate MDO to test interoperability and joint warfare capabilities. The approach enhances situational awareness, command and control, and rapid response in complex conflict scenarios, especially relevant in the Indo-Pacific's strategic environment.

WHY IN NEWS?

Exercise TALISMAN SABRE 2025 is showcasing multi-domain operations, including joint warfare capabilities across air, land, maritime, space, and cyber domains, reflecting modern military operational trends.

Pahalgam Terror Attacks

The Pahalgam terror attacks occurred in April 2025 in the town of Pahalgam, Jammu & Kashmir. The attacks targeted a public gathering, resulting in multiple casualties and injuries. The incident heightened tensions between India and Pakistan, leading to immediate suspension of visa services for Pakistani nationals by the Government of India. Pahalgam is a popular tourist destination known for its scenic beauty and pilgrimage sites. The attacks marked escalation in cross-border terrorism incidents in the region during 2025, influencing diplomatic and security policies between the two countries. The event also impacted international sports engagements involving Pakistani athletes in India.

WHY IN NEWS?

The Pahalgam terror attacks triggered India's suspension of visa services for Pakistani nationals in April 2025, affecting cross-border sports participation and diplomatic relations.

Passing Exercise (PASSEX)

A Passing Exercise (PASSEX) is a short, tactical naval exercise conducted between two or more navies when their ships meet at sea. Typical activities include communication drills, tactical maneuvers, replenishment-at-sea, and cross-deck helicopter landings. PASSEX aims to improve **interoperability**, validate communication protocols, and build mutual

understanding between navies. Unlike larger exercises, PASSEX is usually brief and focuses on practical, operational coordination rather than extensive war games. It serves as a confidence-building measure and a demonstration of diplomatic and military cooperation. PASSEX exercises are common among friendly navies worldwide.

Why in news?

The Indian and Greek navies conducted a PASSEX off Mumbai in July 2025, marking a step forward in their maritime defense collaboration.

Pralay Missile

The **Pralay missile** is an indigenously developed solid propellant quasi-ballistic missile designed for high precision targeting. It uses advanced guidance and navigation systems to achieve pin-point accuracy. Pralay can carry multiple types of warheads, making it versatile against various targets. It was developed collaboratively by Research Centre Imarat and several DRDO laboratories including the Defence Research & Development Laboratory and Advanced Systems Laboratory. Industry partners such as Bharat Dynamics Limited and Bharat Electronics Limited also contributed. Its design emphasizes quick deployment and rapid response, enhancing tactical flexibility for the Indian Armed Forces.

Why in news?

DRDO conducted two successful flight tests of the Pralay missile on July 28 and 29, 2025, validating its maximum and minimum range capabilities during User Evaluation Trials.

Radio Frequency Seeker

A Radio Frequency (RF) seeker is a radar-based guidance component used in missiles to detect and track targets by emitting and receiving radio waves. DRDO developed an indigenous RF seeker for Astra BVRAAM, enabling it to engage targets beyond visual range with high accuracy. The seeker operates in complex electronic environments and can differentiate targets from countermeasures. It is a critical subsystem that enhances missile guidance reliability and target acquisition. The indigenous design reduces dependence on foreign technology and strengthens self-reliance in defense.

Why in news?

The indigenous RF seeker was successfully tested on the Astra missile during flight trials on July 11, 2025, marking milestone in India's missile technology development.

Scorpene Submarines

The **Scorpene-class submarines** are diesel-electric attack submarines developed jointly by France's Naval Group and Spain's Navantia. They are designed for anti-surface warfare, anti-submarine warfare, and intelligence gathering. These submarines have a submerged displacement of around 1,800 tons and can operate at depths up to 300 meters. India operates Scorpene submarines under the Project 75 program, named Kalvari-class. They feature advanced stealth capabilities and air-independent propulsion options for extended underwater endurance. Maintenance and modernization are critical due to their complex systems and high operational demands. Brazil also operates Scorpene submarines and seeks cooperation with India for maintenance expertise.

Why in news?

Brazil expressed interest in partnering with India to maintain their Scorpene submarines during Prime Minister Modi's visit to Brazil in July 2025, denoting defence cooperation as a key agenda.

Sudarshan Chakra

The **'Sudarshan Chakra'** is the official Indian designation for the S-400 Triumf air defense missile system, named after the mythological discus weapon of Lord Vishnu. It can engage aerial targets up to **400 km** away, including aircraft, drones, and ballistic missiles. The system includes multiple missile types for layered defense and uses advanced radar for target tracking. India currently operates three S-400 units with two more expected by 2027. The Sudarshan Chakra enhances India's strategic air defense and is a key part of its anti-access/area denial (A2/AD) capabilities. It was first deployed after an order placed in 2018.

Why in news?

The Sudarshan Chakra played important role in intercepting Pakistani drones and missiles during retaliatory strikes post-Operation Sindoor, prompting India to establish a domestic MRO facility for it.

Trishakti Corps

The **Trishakti Corps** is a corps of the Indian Army headquartered in Siliguri, West Bengal. It was raised in 2005 and is responsible for operations in the eastern sector, particularly along the India-China border in Sikkim and Arunachal Pradesh. The corps plays important role in high-altitude warfare and mountain operations. It is equipped with infantry, artillery, and armored units adapted for rugged terrain. The corps' name, "Trishakti," means "three powers," symbolizing the integration of infantry, armor, and artillery forces. It has participated in various exercises to enhance joint operational capabilities in difficult environments.

Why in news?

Trishakti Corps led the high-altitude technology demonstration exercise 'Divya Drishti' in east Sikkim, testing advanced battlefield awareness and AI-enabled communication systems in July 2025.

UAV Launched Precision Guided Missile (ULPGM)

The ULPGM is an Indian missile system designed to be launched from unmanned aerial vehicles (UAVs). Developed by DRDO, it features precision guidance, lightweight design, and compatibility with multiple aerial platforms. The missile incorporates advanced technologies such as imaging infrared (IIR) seekers and dual-thrust propulsion for extended range and accuracy. ULPGM-V3 is the latest variant, improving on the earlier ULPGM-V2, which had multiple warhead configurations. The system enhances India's strategic flexibility by enabling UAVs to engage targets with high precision, reducing risks to manned aircraft and increasing operational reach in diverse combat scenarios.

Why in news?

India successfully test-fired the ULPGM-V3 at the National Open Area Range (NOAR) in

Kurnool, marking advancement in UAV-launched missile technology and boosting the country's defence capabilities.

Udaygiri (Steam Ship)

The erstwhile INS Udaygiri was a steam-powered warship commissioned by the Indian Navy and decommissioned on 24 August 2007 after 31 years of service. It was part of India's early efforts to build a capable naval fleet during the Cold War period. The ship played role in coastal defense and maritime patrol duties. Its name has been carried forward to the modern P17A stealth frigate, symbolizing continuity and naval heritage. The original Udaygiri was noted for its robust design and reliability during its operational tenure.

Why in news?

The new P17A stealth frigate Udaygiri is named after the decommissioned steam ship, continuing the legacy of the name in the Indian Navy's fleet.

ULPGM-V3 Missile

The **ULPGM-V3** (Unmanned Aerial Vehicle Launched Precision Guided MissileVersion 3) is a 12.5 kg air-to-surface missile developed by DRDO. It uses a **passive imaging infrared (IR) seeker** for target acquisition, enabling precise strikes in both day and night. The missile employs a **dual-thrust solid propulsion system** providing a range of up to 4 km during daytime and 2.5 km at night. It features a **two-way datalink** for real-time communication and supports multiple warhead types for engaging static and moving targets. It is designed for drone launch platforms.

Why in news?

The ULPGM-V3 missile was successfully test-fired by DRDO at the National Open Area Range in Kurnool, Andhra Pradesh, marking advancement in India's UAV-launched precision strike capability.

Awards, Honours, Personalities, Books, Sports etc.

Order of St. Andrew

The **Order of St. Andrew** is Russia's highest order, established in 1698 by Tsar Peter the Great. It honors outstanding military and civil service to the Russian Federation. The insignia features a blue St. Andrew's cross with a medallion of the saint, symbolizing protection and valor. Recipients include heads of state, prominent politicians, and cultural figures. The order was revived in 1998 after the Soviet era to restore historical traditions. It ranks above other Russian orders and is often awarded during state visits or national anniversaries.

Why in news?

PM Narendra Modi has been awarded Russia's **Order of St. Andrew**, part of his collection of highest civilian honors from multiple countries.

Order of the Most Ancient Welwitschia Mirabilis

The **Order of the Most Ancient Welwitschia Mirabilis** is the highest civilian award of Namibia, named after the Welwitschia plant, a unique desert species native to Namibia

and Angola. Welwitschia Mirabilis is known for its extraordinary longevity, with some specimens living over 1,000 years. The award recognizes outstanding contributions to Namibia or its international relations. It is rarely bestowed and symbolizes endurance and resilience, reflecting the qualities of the plant. Recipients are often foreign dignitaries or individuals who have strengthened Namibia's global partnerships. The award includes a medal and a certificate presented by the Namibian President.

WHY IN NEWS?

Prime Minister Narendra Modi received this highest civilian award from Namibia during his State Visit in July 2025, marking the first time an Indian leader has been honored with it.

Order of the Star of Ghana

The **Order of the Star of Ghana** is the highest civilian award of Ghana, established in 1960. It recognizes individuals who have made outstanding contributions to the nation or humanity. The order has multiple classes, with the Officer rank being one of the distinguished levels. The award is symbolized by a star-shaped medal, often worn on formal occasions. Recipients include both Ghanaian nationals and foreign dignitaries who have encourageed strong bilateral relations or contributed to Ghana's development. The order reflects Ghana's post-independence identity and pride in honoring exemplary service to the country and beyond.

WHY IN NEWS?

PM Narendra Modi was conferred the **Officer of the Order of the Star of Ghana** during his historic visit, marking the first Prime Minister of Indiaial trip to Ghana in over 30 years.

Pravasi Bharatiya Samman Award

The **Pravasi Bharatiya Samman Award** is the highest honor conferred on overseas Indians or persons of Indian origin, instituted by the Government of India in 2003. It recognizes exceptional contributions in fields such as public service, philanthropy, business, arts, and science. The award is presented during the Pravasi Bharatiya Divas convention held annually on January 9. Recipients receive a certificate, a citation, and a medal. The award aims to strengthen the bond between India and the Indian diaspora worldwide. It has honored over 300 individuals globally as of 2025.

WHY IN NEWS?

President Christine Carla Kangaloo of Trinidad and Tobago received the Pravasi Bharatiya Samman Award in 2025, acknowledged during Prime Minister Modi's visit.