

Current Affairs [Prelims] Lexicon - June, 2025



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Polity & Governance

2024 World Population Prospects

The **2024 World Population Prospects** is a comprehensive demographic report published by the United Nations Department of Economic and Social Affairs. It provides updated estimates and projections of global and national population trends. The report includes detailed age-specific population data, fertility rates, mortality rates, and migration patterns. It serves as a key reference for policy planning in health, education, and economic development. The 2024 edition revised the estimated number of 6- to 17-year-olds upward by 49 million compared to previous estimates, impacting education planning and out-of-school population models worldwide.

WHY IN NEWS?

Updated population estimates from the 2024 World Population Prospects contributed 62% of the increase in the global out-of-school child population, affecting education monitoring projections.

Amrit Kaal Vision 2047

Amrit Kaal Vision 2047 is a long-term strategic framework launched by the Government of India to guide the country's development over 25 years, culminating in India's centenary of independence. It emphasizes sustainable growth, inclusive development, and technological innovation across sectors, including maritime infrastructure. The vision focuses on transforming India into a global economic and strategic power by 2047, with key priorities such as infrastructure modernization, renewable energy, and enhanced logistics. The maritime sectors development, including initiatives like SMFCL, is a critical component of this vision, aiming to boost trade, connectivity, and national security.

WHY IN NEWS?

The launch of SMFCL aligns with the Amrit Kaal Vision 2047, reinforcing India's commitment to maritime infrastructure growth and economic transformation.

Association for Democratic Reforms (ADR)

The **Association for Democratic Reforms (ADR)** is a non-governmental organization in India founded in 1999 that works to improve transparency and accountability in elections and governance. ADR files Public Interest Litigations (PILs) and petitions to the Supreme Court on electoral reforms and disclosure of candidate information. It played a key role in pushing for the verification of EVMs and VVPAT slips. ADR also provides voter education and publishes detailed candidate affidavits, election expenditure reports, and analysis of election results. Its activism has influenced policies on electronic voting transparency and electoral reforms in India.

WHY IN NEWS?

ADR petitioned the Supreme Court leading to revisions in the Election Commissions SOP for EVM and VVPAT verification in 2025, advocating for stronger safeguards against electoral fraud.



Bhararisain

Bhararisain is the summer capital of Uttarakhand, located in the Garhwal division. Established to serve as a seasonal seat of government, it helps reduce the administrative load on Dehradun during harsh winters. The location is known for its scenic natural beauty and cultural significance, often associated with spiritual and wellness activities. Bhararisain's altitude and climate make it conducive to wellness tourism and yoga retreats. The town has been increasingly promoted as a center for policy-making related to yoga and spirituality, reflecting Uttarakhand's emphasis on integrating governance with cultural heritage.

WHY IN NEWS?

Uttarakhand Chief Minister launched the states first Yoga Policy from Bhararisain, denoting its role as a center of cultural heritage and yoga policy-making.

Central Water Commission (CWC)

The **Central Water Commission (CWC)** is an apex technical organization under Indias Ministry of Jal Shakti responsible for water resource management. It oversees flood forecasting, river basin management, dam safety, and hydrological data collection. CWC operates flood monitoring centers and collaborates with meteorological agencies to issue early flood warnings. It has extended the flood forecasting window from 3 to 7 days to improve preparedness. Established in 1945, CWC also develops flood control infrastructure and coordinates with state governments for disaster response and water resource planning.

WHY IN NEWS?

CWCs flood monitoring centers were reviewed for alignment with national and international standards to enhance flood forecasting and management before the 2025 monsoon.

CPGRAMS

The **Centralized Public Grievance Redress and Monitoring System (CPGRAMS)** is an online platform launched by the Government of India to facilitate the redressal of public grievances against government departments. It enables citizens to lodge complaints and track their status electronically. CPGRAMS integrates with various ministries and departments, ensuring timely resolution. Since February 2024, CBIC has ranked among the top 5 central ministries for grievance disposal, with 95-97% of appeals resolved within 30 days. The system promotes transparency and accountability in governance by providing a single-window mechanism for grievance management.

WHY IN NEWS?

CBICs improved grievance redressal performance in CPGRAMS, disposing 95-97% of appeals within 30 days, was brought into light during the CBIC Conclave in June 2025.

Critical Infrastructure

Critical infrastructure refers to physical and cyber systems vital to a countrys security, economy, public health, and safety. Examples include **military bases, power stations,**



water treatment plants, gas pipelines, and transport facilities. Protecting these assets is a priority for national security to ensure continuity of essential services. The US identifies critical infrastructure sectors and enacts laws to safeguard them from threats such as terrorism, natural disasters, or foreign interference. Ownership or control of land near these sites by foreign nationals is increasingly scrutinized to prevent potential security risks.

WHY IN NEWS?

Ohio bills propose a 25-mile restriction zone around critical infrastructure to limit land purchases by foreign nationals and Green Card holders amid national security concerns.

Delimitation Commission

The Delimitation Commission of India is a high-powered body established by the Central Government under the Delimitation Act after every census to redraw boundaries of Lok Sabha and Assembly constituencies. It operates under Article 82 of the Constitution. The Commission's orders have the force of law and cannot be challenged in court. The last Delimitation Commission was constituted based on the 2001 census, and its work led to the current constituency boundaries. The 2002 constitutional amendment froze delimitation until after the first census post-2026. The Commission ensures equal representation by adjusting seats according to population changes.

WHY IN NEWS?

The freeze on delimitation expires in 2026, and the next Delimitation Commission will use the 2027 census data to redraw Lok Sabha constituencies, potentially altering political representation.

DHRUVA

DHRUVA (Digital Hub for Reference and Unique Virtual Address) is an Government of India initiative launched by the Department of Posts to create a unified digital addressing system. It integrates address data into the Digital Public Infrastructure, enabling real-time, consent-driven sharing of verified addresses. DHRUVA supports interoperability, standardization of address formats, and geolocation tagging. It empowers citizens with control over their address data and promotes public-private collaboration. The platform includes multilingual support and mobile-first access, linking with Aadhaar for identity verification. It aims to enhance governance, service delivery, and private sector efficiency through a secure, dynamic addressing ecosystem.

WHY IN NEWS?

DHRUVA was introduced in June 2025 as a landmark digital policy to transform address data management and usage in India, enabling better governance, emergency response, and private sector services.

Digi Yatra

Digi Yatra is an Government of India initiative launched to transform airport experience through digital technology. It uses **facial recognition** to allow passengers to move from entry to boarding without showing physical ID or documents. The app integrates with



airport systems to provide seamless check-in, security clearance, and boarding. It aims to reduce queues and improve passenger convenience. Digi Yatra is designed to be scalable across airports nationwide and supports contactless travel, enhancing safety. The platform is considered a pioneering example of digital aviation in the Global South, promoting a paperless, efficient travel ecosystem.

WHY IN NEWS?

Prime Minister Modi promoted Digi Yatra at the IATA AGM as a model for global aviation innovation, emphasizing its role in serving large populations and creating a secure, seamless travel experience.

e-MARG System

The **e-MARG** (electronic Maintenance of Rural Roads) system is a mobile-cum-web-based e-governance platform launched to manage and monitor maintenance of rural roads under PMGSY. Contractors use e-MARG to submit maintenance bills, while field engineers conduct Routine Inspections (RI) using geo-tagged photos. The system evaluates performance based on 12 maintenance parameters. It integrates public feedback and inspection data to ensure accountability. e-MARG supports transparency and efficiency in rural road upkeep by enabling digital documentation and evaluation. The latest update includes QR code integration to collect real-time citizen feedback linked to the system.

WHY IN NEWS?

e-MARG now includes QR codes on road display boards to facilitate public feedback on road maintenance quality, improving transparency and performance evaluation.

eMARG System

The **eMARG (electronic Maintenance of Rural Roads)** system is an e-governance platform used to manage and monitor rural road maintenance under PMGSY. Contractors maintain roads for five years post-construction, submitting bills via eMARG. Routine Inspection (RI) is conducted by field engineers who verify maintenance using geo-tagged photos. Performance Evaluation (PE) is based on 12 maintenance parameters and integrates AI/ML to analyze feedback photos from citizens. The system aims to ensure transparency and accountability in maintenance activities across states.

WHY IN NEWS?

eMARG now includes a utility to generate QR codes on maintenance boards, allowing road users to submit real-time feedback and photos, enhancing public participation in road upkeep.

Estimates Committee

The **Estimates Committee** is a parliamentary committee in India responsible for examining how funds allocated by the government are spent. It was first constituted in 1950 and consists of **30 members** from the Lok Sabha. The committee reviews budget estimates and suggests economies in public expenditure. Its recommendations are advisory and not binding. The committee plays a key role in improving financial accountability and governance efficiency. It meets regularly to scrutinize government



expenditures and ensure that funds are used as intended. Nearly 90% of its recommendations are implemented, reflecting its importance in administrative reforms.

WHY IN NEWS?

Lok Sabha Speaker Om Birla inaugurated a two-day National Conference of Estimates Committees of Parliament and States and Union Territories Legislative Bodies in Mumbai, denoting the committees role in governance.

Fair Use Doctrine

The **fair use doctrine** is a legal principle in US copyright law that allows limited use of copyrighted material without permission under specific conditions, such as commentary, criticism, or research. It considers factors like the purpose of use, the nature of the work, the amount used, and the effect on the market value. The doctrine is often applied in transformative works, where the new use adds new expression or meaning. It is codified in Section 107 of the Copyright Act of 1976. Courts interpret fair use on a case-by-case basis, making it a flexible but unpredictable defense.

WHY IN NEWS?

The US federal judge ruled Anthropic's AI training use of copyrighted books as fair use, marking legal precedent in AI and copyright law disputes.

Fast Track Special Courts (FTSCs)

Fast Track Special Courts (FTSCs) are judicial bodies established to expedite the trial of specific cases, primarily those involving crimes against women and children, such as rape. These courts aim to reduce pendency and ensure prompt justice by fast-tracking investigations and trials. FTSCs operate under special procedural rules to accelerate case disposal. Their establishment is part of broader reforms to enhance the efficiency of the criminal justice system in India. By June 2025, FTSCs were a key agenda item in the Central Zonal Council meeting to improve the response to sexual violence cases.

WHY IN NEWS?

The Central Zonal Council discussed the implementation of FTSCs for the speedy investigation and disposal of rape cases during its June 2025 meeting.

Freeze on Delimitation

The freeze on delimitation is a constitutional moratorium on redrawing parliamentary and assembly constituencies based on census data, first imposed in 1976 for 25 years and extended in 2002 for another 25 years. It was introduced to protect southern states from losing representation due to slower population growth compared to northern states. The freeze means constituency boundaries and seat allocations remain based on outdated census figures (1971 or 2001). The freeze is set to expire in 2026 unless extended by Parliament through a constitutional amendment. Ending the freeze will allow reallocation of seats based on the latest population data.

WHY IN NEWS?

The delimitation freeze is due to end in 2026, prompting debates on whether to extend it or proceed with delimitation using the 2027 census, impacting political balance between northern and southern states.



Governing Council (GC) of NIIF

The **Governing Council (GC)** of NIIF is a high-level decision-making body responsible for guiding the funds policies, strategy, and performance oversight. It consists of senior government officials, including the Union Finance Minister as chairperson, and representatives from key stakeholders. The GC meets periodically to review fund management, approve new initiatives, and align NIIFs activities with national economic priorities. The council ensures transparency and accountability in managing sovereign-linked investments. The 6th GC meeting in 2025 brought into light discussions on future fund sizes, capital raising avenues, and NIIFs evolving institutional role in India's infrastructure ecosystem.

WHY IN NEWS?

The 6th meeting of NIIFs Governing Council was chaired by Finance Minister Nirmala Sitharaman to discuss fund performance, strategy, and future capital raising plans.

Government e-Marketplace (GeM)

The **Government e-Marketplace (GeM)** is an online platform launched by the Government of India in 2016 to facilitate procurement of goods and services by government departments and organizations. It aims to enhance transparency, efficiency, and speed in public procurement. GeM offers a wide catalog of products, from office supplies to specialized equipment, and supports direct purchase, bidding, and reverse auction processes. It integrates with other government systems like the Public Financial Management System (PFMS). Despite its benefits, GeM has faced criticism for limiting flexibility in buying highly specialized research equipment not always available on the platform.

WHY IN NEWS?

The new policy reforms announced allow research institutions to bypass mandatory GeM procurement for specialized research equipment, empowering institutional heads to make non-GeM purchases, improving ease of research in India.

Gram Panchayat

A **Gram Panchayat** is the local self-government organization at the village or small-town level in India. It functions as the grassroots-level administrative body responsible for civic and infrastructural management, including water supply, sanitation, and local roads. Gram Panchayats are elected bodies under the Panchayati Raj system, established by the 73rd Constitutional Amendment Act of 1992. They play a key role in disaster management and relief distribution during emergencies. The term "gram" means village, and panchayat means assembly of five elders, though modern panchayats have elected members beyond five. They form the foundation of rural governance in India.

WHY IN NEWS?

Seventeen gram panchayat areas in Odisha's Balasore district were affected by the flash flood, prompting local administration to coordinate relief efforts.



Jan Vishwas 2.0

Jan Vishwas 2.0 is a government initiative to decriminalise over 100 outdated legal provisions related to minor, technical, and procedural offences across various Acts. It follows the Jan Vishwas Act, 2023, which decriminalised 180 legal provisions, including in copyright, trademarks, patents, and geographical indications laws. The initiative replaces penalties with monetary fines to promote ease of doing business. The Joint Parliamentary Committee recommended extending the reform to more laws. DPIIT is reviewing about 100 rules and laws to prepare the Jan Vishwas 2.0 Bill for further regulatory modernisation.

WHY IN NEWS?

DPIIT is pushing Jan Vishwas 2.0 to further decriminalise minor offences and improve the business environment as part of ongoing regulatory reforms.

Jati, Mati Aru Bheti

The phrase **Jati, Mati Aru Bheti** is an Assamese expression meaning **identity, land, and homeland**. It symbolizes the cultural and territorial rights of indigenous communities in Assam. This slogan has been central to various indigenous movements in Assam since the late 20th century, emphasizing the protection of ethnic identity and ancestral lands from perceived external threats or demographic changes. The phrase reflects deep-rooted sentiments about belonging and survival amidst political and social challenges. It has been invoked in political discourse, especially by regional parties and groups advocating for indigenous rights and autonomy in Assam.

WHY IN NEWS?

The Assam government invoked this slogan to justify a new arms licence scheme aimed at protecting indigenous communities in vulnerable border areas against threats from Bangladesh-origin populations.

Karbi Anglong Autonomous Council

The **Karbi Anglong Autonomous Council (KAAC)** administers the Karbi Anglong district in Assam, under the Sixth Schedule of the Constitution of India. It was established to provide self-governance to indigenous communities, mainly the Karbi tribe. The council has legislative, executive, and judicial powers over land, forest, and local customs, aiming to protect tribal identity and culture. KAAC covers an area of approximately 10,434 square kilometers. It has faced challenges from ethnic conflicts and demands for greater autonomy. The council operates through elected representatives and has authority over local resources and development projects within its jurisdiction.

WHY IN NEWS?

The Karbi Anglong Autonomous Council is the site of proposed land acquisition for a solar power park, which faced opposition from local communities and led to the withdrawal of an ADB loan.

MAHASAGAR Initiative

MAHASAGAR stands for Mutual and Holistic Advancement for Security Across the Regions.



It is an expanded maritime vision announced by India's Prime Minister to build on the earlier SAGAR initiative (Security and Growth for All in the Region). MAHASAGAR aims to enhance India's maritime cooperation through inclusive growth, regional security, environmental stewardship, and sustainable development. It focuses on strengthening economic partnerships, capacity building, disaster management, and information sharing across Indian Ocean and adjoining regions. The initiative supports India's goal to become a global maritime leader by integrating security and growth with holistic regional engagement.

WHY IN NEWS?

India's Union Minister Sarbananda Sonowal reaffirmed the MAHASAGAR vision at a global ministerial meeting on shipping and ocean business, emphasizing sustainable growth and international maritime cooperation.

Naksha Pilot Programme

The **Naksha pilot programme** was launched in 2024-25 by the Ministry of Rural Development to digitise urban land records in 157 urban local bodies across 27 states and 3 union territories. It uses state-of-the-art aerial and field survey techniques to create a comprehensive GIS-integrated database of urban land parcels. The programme aims to improve transparency in property ownership, urban planning, and infrastructure development. Ten urban local bodies in Uttar Pradesh, including Gorakhpur and Jhansi, are part of this pilot. Digitised records include khatauni, maps, and khasra, helping reduce fraud and streamline judicial land dispute resolution.

WHY IN NEWS?

The Naksha programme is being implemented in Uttar Pradesh to provide accurate urban land records and support urban planning and infrastructure development amid rapid urbanisation.

Nari Shakti Vandan Adhiniyam

The **Nari Shakti Vandan Adhiniyam** is a law passed in September 2023 that mandates the reservation of one-third of seats for women in the Lok Sabha and state assemblies. Its implementation is contingent on the completion of the delimitation exercise based on the first Census conducted after the Act's enactment. The law is part of the Constitution (One Hundred and Twenty-Eighth Amendment) Bill, 2023. The reservation aims to enhance women's political representation at the central and state levels. The Act links women's reservation directly to delimitation, a process of redrawing electoral boundaries based on updated population data.

WHY IN NEWS?

The Modi government plans to implement this Act in the 2029 Lok Sabha elections, following the upcoming delimitation exercise based on the 2027 Census data.

National Population Register (NPR)

The National Population Register (NPR) is a comprehensive database of usual residents of India, maintained by the Office of the Registrar General. It was first created in 2010 and



updated in 2015, containing demographic and biometric data of over 119 crore residents. NPR serves as a foundational step towards the National Register of Indian Citizens (NRIC). Its update was planned alongside the 2021 census but was deferred. Unlike the census, NPR data collection is continuous and involves self-enumeration options. The NPR has faced opposition from some states over privacy and citizenship concerns. It is governed by the Citizenship Rules, 2003.

WHY IN NEWS?

No update to the National Population Register was announced for the 2027 census, despite its planned update during the postponed 2021 census phase one.

One Nation, One Application

The **One Nation, One Application** policy aims to unify various government digital services into a single integrated platform for citizens and officials. It is part of the broader Digital India initiative, promoting seamless access and efficiency in governance. This concept aligns with other reforms like One Nation, One Ration Card and the proposed One Nation, One Election. It supports transparency by providing real-time data and consolidates multiple functionalities, reducing redundancy. The policy encourages uniformity across states and central government services, streamlining administrative processes and citizen engagement in democratic functions.

WHY IN NEWS?

The concept was brought into light during the NeVA inauguration in Puducherry, emphasizing its role in unifying legislative digital services and supporting democratic transparency.

One Nation, One Election

One Nation, One Election is a political reform proposal in India aimed at synchronizing the timing of elections for the Lok Sabha and all State Legislative Assemblies. The concept seeks to reduce election-related expenditure, administrative burden, and governance disruption caused by staggered elections. The idea was first formally proposed in the 1950s but has gained renewed attention recently. It requires constitutional amendments and changes in electoral laws. Critics argue it could affect federalism and regional autonomy. Shanta Kumar, former Himachal Pradesh Chief Minister, wrote letters supporting this reform to Prime Minister Narendra Modi, reflecting ongoing debates on this subject.

WHY IN NEWS?

Papers of Shanta Kumar, including correspondence on One Nation, One Election, were recently acquired by the PMML, denoting the ongoing discourse on this reform.

Operation Chakra-5

Operation Chakra-5 is a coordinated law enforcement initiative by the Central Bureau of Investigation (CBI) targeting cybercrime and related financial frauds in India. It involves simultaneous searches and investigations across multiple states to dismantle networks involved in digital scams, including the misuse of mule bank accounts. The operation



focuses on uncovering fraudulent account openings, document forgery, and cybercrime facilitation. Chakra-5 is part of a series of operations aimed at strengthening cyber law enforcement and improving inter-agency coordination. It combines digital forensics, intelligence gathering, and field raids to disrupt criminal activities.

WHY IN NEWS?

Operation Chakra-5 was launched across Rajasthan, Delhi, Haryana, Uttarakhand, and Uttar Pradesh to crack down on mule bank accounts used in cyber frauds.

Operation Deep Manifest

Operation Deep Manifest is an ongoing enforcement initiative by the Directorate of Revenue Intelligence aimed at intercepting illegal imports and smuggling through false declarations and transshipment routes. The operation targets goods originating from banned countries, especially Pakistan, that enter India via third countries to evade customs restrictions and duties. It involves detailed scrutiny of shipping manifests, container inspections, and financial transaction analysis to uncover complex smuggling networks. The operation has led to multiple seizures and arrests, denoting vulnerabilities in maritime trade routes and the use of shell companies to obscure the origin of goods.

WHY IN NEWS?

The dry dates seized at Nhava Sheva port were part of Operation Deep Manifest, which uncovered the transshipment of Pakistani goods through Dubai to bypass the import ban.

PM Gati Shakti Plan

The **PM Gati Shakti National Master Plan** is an integrated infrastructure development initiative launched by the Government of India to enhance multi-modal connectivity across the country. It aims to synchronize projects across transport, logistics, and utilities sectors to reduce bottlenecks and improve efficiency. The plan incorporates digital tools for real-time monitoring and coordination among ministries. It focuses on improving freight corridors, highways, railways, and ports, facilitating seamless movement of goods and passengers. The initiative targets reducing logistics costs and boosting economic growth by optimizing infrastructure utilization and connectivity.

WHY IN NEWS?

The railway doubling projects approved by the Cabinet Committee on Economic Affairs are part of the PM Gati Shakti plan to improve multi-modal transport connectivity and infrastructure integration.

Political Empowerment Subindex

The **Political Empowerment Subindex** measures gender parity in political representation, including the percentage of women in parliament and ministerial roles. It is one of the four dimensions of the Global Gender Gap Index. Political empowerment is often the slowest dimension to improve globally. In India, female representation in parliament fell from 14.7% in 2024 to 13.8% in 2025, and women in ministerial roles declined from 6.5% to 5.6%. The subindex score is sensitive to these changes, reflecting the challenges women face in political leadership despite gains in other sectors.



WHY IN NEWS?

Indias declining female political representation in 2025 contributed to a drop in its Political Empowerment subindex score, impacting its overall Global Gender Gap ranking.

Population Census Phases

The Indian Population Census is conducted in two distinct phases – **Phase I (House Listing)** and **Phase II (Population Enumeration)**. Phase I involves collecting data on housing, amenities, and assets. Phase II focuses on enumerating individuals, recording demographic details. The 2011 Census followed this format, while the 2027 Census will split phases geographically, starting with difficult terrain regions first. The census is the largest administrative exercise globally, covering over **1.3 billion people**. It informs government planning, policy-making, and resource allocation. Notifications for the census are published in the official gazette to commence the process.

WHY IN NEWS?

The government announced the Population Census 2027 will be conducted in two phases, beginning in hilly and snow-hit areas from October 2026, followed by the rest of the country in March 2027.

Regional Fisheries Management Organizations (RFMOs)

RFMOs are intergovernmental bodies responsible for managing fishery resources in international waters beyond national jurisdiction. They coordinate regulations, monitor compliance, and collect data to ensure sustainable fishing practices. RFMOs use observation systems, onboard cameras, and landing data to enforce rules. Their effectiveness varies, but strong RFMOs have contributed to the sustainability of tuna stocks, with 87% assessed as sustainable. RFMOs operate in high seas areas, where no single country has sovereignty, making their role critical for global fishery governance.

WHY IN NEWS?

The FAO 2025 report credits RFMOs with enabling better compliance and data collection, contributing to higher sustainability rates in high seas fisheries, especially for tuna species.

Registrar General of India (RGI)

The Registrar General of India (RGI) operates under the Ministry of Home Affairs and is responsible for the Civil Registration System (CRS) and the Census of India. Established in 1961, the RGI oversees the registration of births, deaths, and marriages nationwide. It implements the Registration of Births and Deaths (RBD) Act, 1969, which mandates compulsory registration of vital events. The RGI maintains the National Population Register (NPR) and has developed a centralized digital portal since 2023 to unify data collection. It enforces timely reporting by hospitals and registration units to improve demographic statistics and public service delivery.

WHY IN NEWS?

The RGI has issued directives to ensure birth certificates are issued to mothers before hospital discharge, particularly in government hospitals, to improve birth registration compliance and facilitate digital documentation.



Registration of Births and Deaths (RBD) Act, 1969

The RBD Act, 1969 is a central legislation mandating the compulsory registration of all births and deaths in India. It was amended in 2023 to enable electronic registration and centralized data management via the CRS portal. The Act requires registration within 21 days of the event and empowers the Registrar to issue certificates in electronic or physical formats. Prior to 2023, birth and death records were maintained separately by states, but the amendment unified these under a central system. The Act facilitates legal identity, access to public services, and demographic data collection for policy planning.

WHY IN NEWS?

The 2023 amendment to the RBD Act mandates digital birth certificates as the sole proof of birth from October 1, 2023, streamlining identification and service access.

S. R. Bommai Case

The S. R. Bommai case (1994) is a landmark Supreme Court judgment that curtailed misuse of Article 356. The Court ruled that Presidents Rule should only be imposed during a constitutional breakdown, not just law and order issues. It established that such imposition is subject to judicial review and that the Legislative Assembly should not be dissolved before parliamentary approval of Presidents Rule. This judgment has since acted as a safeguard against arbitrary dismissal of elected State governments and has influenced several subsequent rulings that struck down wrongful impositions of Presidents Rule.

WHY IN NEWS?

The case is referenced in the context of Manipurs Presidents Rule, denoting judicial safeguards against misuse of Article 356 and the importance of maintaining constitutional governance.

Sarvam AI

Sarvam AI is an Indian startup developing sovereign large language models (LLMs) with a focus on governance and public service. Their models include Sarvam-1 (2 billion parameters), Sarvam-M (24 billion parameters), and a forthcoming open-source 120 billion parameter model. These models integrate hybrid reasoning capabilities and are designed to power applications such as 2047 – Citizen Connect and AI4Pragati to enhance citizen engagement and governance. Sarvam AI's work supports India's goal of creating AI systems trained on India-specific data, ensuring relevance and inclusivity in AI-driven public services.

WHY IN NEWS?

Sarvam AI was selected under the IndiaAI Mission to build a large-scale sovereign LLM ecosystem, contributing to India's indigenous AI capacity expansion.

SCORES (Sebi Complaint Redressal System)

SCORES is an **online platform launched by the Securities and Exchange Board of India (Sebi)** to facilitate investors in lodging and tracking grievances against listed companies and registered intermediaries. It was introduced to enhance transparency and efficiency



in resolving investor complaints. The system automatically forwards complaints to concerned entities, which must respond within 21 days. If unsatisfied, investors can request a First Level Review within 15 days. SCORES 2.0 includes features like automated forwarding and tracking, aiming to reduce resolution times and improve investor protection in the Indian capital markets.

WHY IN NEWS?

Sebi reported resolving 4,493 investor complaints via SCORES in May 2025, denoting the platform's ongoing role in grievance redressal and noting the increase in unresolved complaints compared to April.

Self-enumeration

Self-enumeration in the Indian Census allows individuals to submit their census data digitally without direct enumerator involvement. This method leverages mobile applications and online platforms, providing convenience and reducing fieldwork load. It is part of the 2027 Census modernization efforts to increase participation and data accuracy. Self-enumeration requires stringent data security measures to protect personal information during collection, transmission, and storage. This approach is expected to improve response rates, especially among tech-savvy populations, and streamline the census process.

WHY IN NEWS?

Self-enumeration is being introduced in the 2027 Census to enable digital data submission, reflecting the shift towards technology-driven census operations.

Sixth Schedule Status

The Sixth Schedule of the Constitution of India provides tribal areas in Northeast India with autonomous district councils that have legislative, administrative, and judicial powers over land, forests, customs, and governance. It aims to protect tribal identity and self-rule. Ladakh's demand for inclusion under the Sixth Schedule stems from its predominantly Scheduled Tribe population (>90%) and the desire for greater autonomy. However, Ladakh currently lacks this status, and governance is through executive orders under Article 240. The Sixth Schedule would grant constitutional safeguards unavailable through current regulations, including land protection and legislative powers for local councils.

WHY IN NEWS?

Ladakh's civil society and political groups continue to demand Sixth Schedule status to secure constitutional autonomy and protections, which the 2025 regulations have not provided.

Special Intensive Revision

The **Special Intensive Revision** of electoral rolls is a process authorized under the Representation of the People Act, 1950, allowing the Election Commission to prepare electoral rolls afresh. It has been used 13 times between 1952 and 2004. This revision involves a comprehensive re-verification of electors' eligibility, including house-to-house enumeration. It requires electors to submit detailed proof of birth and parentage, aligned



with the Citizenship Act, 1955. The process aims to remove ineligible voters and include all eligible ones, ensuring electoral roll integrity. It uses modern technology for document uploads and transparency while protecting privacy.

WHY IN NEWS?

The Election Commission announced a Special Intensive Revision for Bihar's electoral rolls ahead of the state assembly elections in 2025 to ensure accuracy and prevent illegal entries.

Voter Verified Paper Audit Trail (VVPAT)

The **Voter Verified Paper Audit Trail (VVPAT)** is a paper slip generated by EVMs that records the vote cast by a voter. Introduced in India in 2013, it provides a physical verification mechanism to complement electronic voting. Each slip displays the candidate's symbol and name and is visible to the voter before being stored securely. VVPAT slips are used for audits, recounts, and resolving disputes. The Supreme Court of India has ruled that 100% counting of VVPAT slips is not mandatory but allowed partial verification for second and third-placed candidates. VVPAT storage and video recording of verification processes are now mandated for longer periods.

WHY IN NEWS?

The revised SOP in 2025 enhanced the procedures for VVPAT verification, including longer storage of slips and video footage, following Supreme Court directions and petitions by election watchdogs.

Womens Reservation Bill

The **Womens Reservation Bill** mandates 33% reservation for women in India's Lok Sabha and State legislatures. Passed in 2023, it is linked to the next Census and delimitation exercise, so it will be implemented starting with the 2029 general elections. The reservation is valid for 15 years, covering only two election cycles (2029 and 2034). Women's representation in State Assemblies was just 9% in 2023, with large state-wise variations. This bill follows decades of 33-50% reservation for women in local panchayat and municipal bodies, but there is no formal mechanism to transition women leaders from local to higher levels.

WHY IN NEWS?

The bill's implementation is expected to increase women's political empowerment scores in India starting 2029, addressing the current low representation of women MPs and ministers.

Economy & Banking/Finance

16th Finance Commission

The **16th Finance Commission** was constituted on December 31, 2023, to recommend the distribution of financial resources between the Centre and States for the period starting April 1, 2026, to March 31, 2031. It is chaired by **Arvind Panagariya**, former Vice-Chairman of NITI Aayog. The Commission submits its report by October 31, 2025. It succeeds the 15th Finance Commission, which recommended a 41% share of the divisible



tax pool to states. The Commission consists of full-time and part-time members appointed by the President of India.

WHY IN NEWS?

The 16th Finance Commission is in focus due to the appointment of T Rabi Sankar as a part-time member following the resignation of a full-time member, Ajay Narayan Jha.

Account Aggregator Network

The **Account Aggregator (AA) Network** is a financial data-sharing system launched in India to enable individuals and businesses to securely share financial information with third parties, such as lenders or financial advisors, with user consent. It operates under the regulatory framework of the Reserve Bank of India and uses APIs for data exchange without storing data centrally. The AA framework enhances data privacy and financial inclusion by simplifying loan applications and credit assessments. It is a key component of India's digital financial infrastructure, promoting transparency and ease of access to financial services.

WHY IN NEWS?

The FSDC meeting discussed measures to expand the reach and improve the effectiveness of the Account Aggregator network to boost financial sector development.

Asset Reconstruction Companies

Asset Reconstruction Companies (ARCs) are specialized financial institutions in India that acquire non-performing assets (NPAs) from banks and financial institutions to recover dues. Established under the SARFAESI Act of 2002, ARCs buy distressed assets at a discount and attempt recovery through restructuring, resale, or legal measures. ARCs play a role in cleaning up bank balance sheets and improving credit flow. There are over a dozen registered ARCs in India, regulated by the RBI. They operate by pooling NPAs and converting them into securities, providing liquidity to banks and facilitating resolution of stressed assets.

WHY IN NEWS?

The RBI imposed fines on 37 non-banking financial companies and asset reconstruction companies for regulatory contraventions in the financial year ending March 31, 2025.

Bananas in Indian Agriculture

Bananas are one of the leading fruit crops in India, cultivated across multiple states including Tamil Nadu, Maharashtra, and Gujarat. India is the largest producer of bananas globally, contributing over 25% of world production. Bananas provide nutritional benefits and are a major source of income for smallholder farmers. The fruit has multiple varieties, including Cavendish and Robusta, suited to different climatic zones. Bananas have a fast growth cycle and can be harvested year-round. They are used both for fresh consumption and processed products like chips and puree. Bananas recently surpassed mangoes in GVO contribution among Indian fruits.

WHY IN NEWS?

Bananas overtook mangoes as the most valuable contributor to the fruit segments GVO in India during 2023-24, according to the MoSPI report.



Benchmark-Indicator Method

The Benchmark-indicator method estimates GDP by extrapolating previous years benchmark data using current indicators. It combines base-year data with relevant sector-specific indicators like industrial production, crop output, and financial results. This method helps produce timely provisional GDP estimates before final data is available. It is widely used in India by the NSO for annual and quarterly GDP calculations. The method balances accuracy and timeliness but may undergo revisions as more complete data emerges. It integrates diverse data sources such as GST collections, transport metrics, and government accounts for comprehensive estimation.

WHY IN NEWS?

The NSO used the Benchmark-indicator method to compile provisional GDP estimates for FY 2024-25 and Q4, incorporating updated sectoral indicators up to May 2025.

BFSI Sector

The **BFSI** sector stands for Banking, Financial Services, and Insurance. It is a critical part of Indias economy, encompassing banks, insurance companies, non-banking financial companies (NBFCs), and other financial intermediaries. BFSI contributes to GDP growth and market capitalization. Unlike manufacturing, BFSI has shown stronger gains recently, driving economic expansion. The sector is heavily regulated by bodies like the Reserve Bank of India (RBI) and Insurance Regulatory and Development Authority of India (IRDAI). BFSI's digital adoption and financial inclusion efforts have accelerated growth in recent years, boosting its share in nominal GDP.

WHY IN NEWS?

Stronger gains in the BFSI sector compared to manufacturing partly explain the widening gap between nominal GDP growth and corporate revenue growth in FY25.

Bilateral Trade Negotiations (India-US)

Bilateral trade negotiations between India and the United States focus on reducing tariffs, addressing trade barriers, and enhancing market access for goods and services. These talks have been ongoing for years, with periodic pauses to reassess positions. The negotiations cover areas such as intellectual property rights, agriculture, technology, and investment protections. Both countries aim to balance trade deficits and strengthen economic ties. The current pause in talks is scheduled to end in early July 2025, potentially leading to renewed discussions on tariff reductions and trade facilitation.

WHY IN NEWS?

The ongoing India-US bilateral trade negotiations are in a pause period expected to end in early July 2025, with potential impacts on Indias economic projections and tariff policies.

Bio-E3 Initiative

The **Bio-E3 Initiative** stands for Biotechnology for Economy, Environment & Employment, launched by the Department of Biotechnology (DBT), Government of India. It aims to boost biotechnological self-reliance by investing in advanced platforms like monoclonal antibodies (mAbs). The initiative focuses on strengthening local R&D capacity, reducing



import dependence, and promoting equitable access to high-quality biologics. It supports innovation in precision medicine and sustainable biotech development, emphasizing economy, environment, and employment generation. Bio-E3 also encourages academia-industry partnerships to accelerate indigenous therapeutic solutions and enhance Indias biopharmaceutical sector globally.

WHY IN NEWS?

Bio-E3 was brought into light during the THSTI symposium as a key government policy supporting indigenous development of monoclonal antibody therapeutics and encouraging collaboration between industry and academia.

Coffee Board of India

The **Coffee Board of India** was established in 1942 under the Coffee Act to promote coffee cultivation and trade. It regulates coffee production, quality control, and export promotion. The board issues Registration-Cum-Membership Certificates (RCMC) digitally, streamlining export processes. It provides financial support, including subsidies for machinery installation (up to ₹15 lakh or 40% cost) to enhance value addition like roasting and packaging. The board also offers transit/freight assistance, giving ₹3 per kg for value-added coffee exports and ₹2 for high-value green coffee shipments to distant markets. It supports sustainability through shade-grown coffee promotion.

WHY IN NEWS?

The Coffee Board of Indias initiatives have contributed to a 125% increase in Indias coffee exports over 11 years, reaching \$1.8 billion in 2024-25.

Critical Minerals Concentration

Critical minerals such as lithium, cobalt, and rare earth elements are essential for electric vehicle batteries, renewable energy technologies, and electronics manufacturing. Currently, mining and processing of these minerals are **highly concentrated** in a few countries, including China, the Democratic Republic of Congo, and Australia. This concentration poses risks of supply disruptions impacting global energy transition efforts. Diversification of mining and refining locations is necessary to reduce geopolitical and economic vulnerabilities. These minerals are also crucial for defense and semiconductor industries, making their supply security a strategic priority worldwide.

WHY IN NEWS?

Fatih Birol warned about the risks of critical mineral concentration and urged countries to diversify supply chains to safeguard the energy transition during his recent statements.

Dry Powder (Monetary Policy)

“Dry powder” in monetary policy refers to the unused capacity or room a central bank keeps to provide further stimulus if needed. It is the monetary “ammunition” that allows central banks to cut rates or inject liquidity during economic downturns. Maintaining dry powder ensures flexibility to respond to future economic shocks without exhausting policy tools prematurely. Central banks avoid using all their stimulus at once, preferring to retain some dry powder for unforeseen crises. The Reserve Bank of Indias current policy stance



suggests limited dry powder due to already low repo rates and record low CRR, restricting further aggressive rate cuts.

WHY IN NEWS?

The RBI's large rate cuts in June 2025 have reduced its dry powder, limiting future monetary stimulus options if economic conditions worsen.

Dynamic QR Code

Dynamic QR Code is a type of QR code that changes with each transaction, unlike static QR codes which remain constant. It enables secure, real-time digital payments by generating a unique code for every payment request. This technology reduces fraud risks and improves transaction tracking. It is widely adopted in digital payment systems such as UPI in India. Dynamic QR codes can be customized with transaction details like amount and merchant ID, facilitating seamless integration with banking apps and payment gateways. They are more flexible than static QR codes, which only store fixed information and cannot update transaction data dynamically.

WHY IN NEWS?

Dynamic QR Code is being introduced in Indian post offices' new IT infrastructure to enable secure digital payments at counters, replacing the earlier static QR code system.

E-Way Bills

E-Way Bills are electronically generated documents required for the movement of goods worth more than ₹50,000 under the Goods and Services Tax (GST) regime in India. Introduced in 2018, they help track interstate and intrastate transport of goods, improving tax compliance and reducing tax evasion. The system is integrated with the GST Network and is mandatory for businesses transporting goods by road, rail, air, or ship. E-Way bills must be generated before the movement of goods begins and are valid for a specified time depending on the distance. The volume of E-Way bills is a proxy for economic activity and goods movement.

WHY IN NEWS?

Monthly E-Way bills have risen by over 13% year-over-year, signaling increased goods movement and tax compliance amid RBI's monetary policy changes in June 2025.

Economic Advisory Council to the Prime Minister (EAC-PM)

The Economic Advisory Council to the Prime Minister (EAC-PM) is a high-level body constituted to provide expert advice on economic matters to the Prime Minister of India. It was first established in 2004 and reconstituted multiple times since. The council comprises eminent economists, academicians, and experts who analyze economic trends and suggest policy measures. Its recommendations influence fiscal policy, economic reforms, and development strategies. Unlike permanent government bodies, the EAC-PM functions as an advisory panel without executive powers. Members typically serve on a full-time or part-time basis, depending on the council's constitution at the time.

WHY IN NEWS?

S Mahendra Dev has been appointed as the new Chairman of the EAC-PM, marking leadership change in the government's economic advisory framework.



Economic Census

The **Economic Census** is a comprehensive survey conducted periodically to collect data on all economic activities, including both organized and unorganized sectors. It provides detailed information on the number, type, and distribution of enterprises across regions and industries. The census helps in understanding employment patterns, industrial growth, and sectoral contributions to the economy. It is a key data source for government planning and policy formulation and complements other statistical sources like the SBR by covering informal and small-scale enterprises often missed in other datasets.

WHY IN NEWS?

The Economic Census is one of the primary data sources for the new Statistical Business Register, enhancing coverage of the unorganized sector in business statistics.

Exclusive Economic Zone (EEZ)

An **Exclusive Economic Zone (EEZ)** extends up to 200 nautical miles from a coastal state's baseline, granting sovereign rights over marine resources like fish, oil, and gas. While the coastal state has jurisdiction over resource exploitation, navigation and overflight rights remain open to other nations. EEZs were established under the United Nations Convention on the Law of the Sea (UNCLOS) in 1982. Areas beyond EEZs are considered high seas or international waters, where no country holds sovereignty. EEZs cover about 37% of the world's oceans, creating a legal framework for marine resource management.

WHY IN NEWS?

The High Seas Treaty applies to waters beyond EEZs, denoting the distinction between national jurisdiction and international waters in marine conservation efforts.

FASTag

is a reloadable tag that enables electronic toll collection on national highways in India, using Radio Frequency Identification (RFID) technology. Launched in 2017 by the National Highways Authority of India (NHAI), FASTag allows vehicles to pass through toll plazas without stopping for cash payments. FASTag is linked to prepaid or savings accounts, and toll charges are automatically deducted. By May 2025, FASTag transactions reached 404 million in volume and Rs 7,087 crore in value, a 5% and 4% increase respectively from April 2025. FASTag adoption has reduced traffic congestion at toll plazas.

WHY IN NEWS?

FASTag transactions grew in May 2025, reflecting increased adoption of electronic toll payments in India.

FDI Outflows

FDI outflows are investments made by a country's residents or companies into foreign economies. These investments can include establishing subsidiaries, joint ventures, or acquiring overseas assets. India's FDI outflows increased from \$14 billion in 2023 to \$24 billion in 2024, moving its global rank from 23rd to 18th. Indian outbound investments focus on sectors like semiconductors and basic metals, reflecting strategic economic priorities. The rise in outflows indicates growing global business expansion by Indian



firms. Saudi Arabia also improved its ranking alongside India in 2024.

WHY IN NEWS?

India's rise in FDI outflows in 2024 indicates increased outbound investment activity by Indian companies, contributing to its enhanced global economic footprint.

Floriculture in India

Floriculture involves the cultivation of flowering and ornamental plants for gardens and floristry. India's floriculture sector nearly doubled its Gross Value Output (GVO) from ₹17.4 thousand crore in 2011-12 to ₹28.1 thousand crore in 2023-24 at constant prices. It reflects growing commercial interest and diversification within horticulture. Major floriculture producing states include Tamil Nadu, Karnataka, and West Bengal. The sector contributes to employment, especially in rural areas, and supports export markets. It includes cut flowers, loose flowers, potted plants, and bulbs. Floriculture benefits from advancements in greenhouse technology and tissue culture techniques.

WHY IN NEWS?

Floriculture's GVO nearly doubled from 2011-12 to 2023-24, denoting its rising commercial importance and shifts in agricultural diversification in India.

Food Articles Index

The **Food Articles Index** is a sub-component of the Wholesale Price Index that tracks price changes specifically for food items such as cereals, pulses, vegetables, fruits, spices, and animal products. It is sensitive to seasonal variations and monsoon performance, directly impacting inflation readings. The index is critical for understanding food inflation trends in India, which affect overall inflation due to the large share of food in consumer expenditure. The Food Articles Index is updated monthly and helps policymakers assess agricultural output and supply chain conditions.

WHY IN NEWS?

The Food Articles Index showed a slowdown in May 2025 with a year-on-year increase of 1.72%, down from 2.55% in April, due to sharp declines in vegetable and pulse prices.

Gini Coefficient in India

The **Gini coefficient** measures income or consumption inequality within a population. In India, the rural Gini coefficient of household expenditure decreased from 0.283 in 2011-12 to 0.237 in 2023-24, while the urban coefficient fell from 0.363 to 0.284 in the same period. These declines indicate a reduction in consumption inequality across both rural and urban areas. The Gini coefficient ranges from 0 (perfect equality) to 1 (maximum inequality). India's decreasing values reflect improved income distribution, influenced by social protection schemes and economic growth in agriculture and other sectors.

WHY IN NEWS?

The 2025 NIF report revealed updated Gini coefficient figures, showing a trend toward reduced income inequality in India's rural and urban populations over the past decade.

Global Trade Research Initiative (GTRI)

The **Global Trade Research Initiative (GTRI)** is a research organization focusing on international trade dynamics and economic risks. Founded by Ajay Srivastava, GTRI



provides detailed analysis on trade exposures, energy dependencies, and geopolitical impacts on commerce. Recently, GTRI brought into light India's trade with Iran and Israel, and its vulnerability due to reliance on the Strait of Hormuz for energy imports. The organization issues warnings about potential disruptions in global supply chains and inflationary pressures resulting from geopolitical conflicts, offering critical data for policymakers and businesses to anticipate and manage trade risks.

WHY IN NEWS?

GTRI released a report warning of India's trade and energy vulnerabilities amid the Iran-Israel conflict and potential closure of the Strait of Hormuz, emphasizing risks to exports and inflation.

Goldilocks Situation

The term **Goldilocks situation** in economics describes a state where growth is steady and inflation is moderate, creating an ideal environment for economic stability. It implies an economy that is not too hot, not too cold, avoiding recession or overheating. This balance supports consumer confidence and investment without triggering excessive inflation or asset bubbles. The phrase originates from the Goldilocks and the Three Bears fairy tale, symbolizing the search for the just right condition. It is often used by policymakers and analysts to describe favorable macroeconomic conditions that encourage sustainable growth.

WHY IN NEWS?

India's Finance Ministry described the country's current macroeconomic health as a relative goldilocks situation, indicating cautious optimism amid global uncertainties.

Goods and Services Tax Network (GSTN)

The Goods and Services Tax Network (GSTN) is a non-profit organization providing IT infrastructure and services for India's GST system. It manages registration, return filing, tax payment, and data analytics for GST taxpayers. GSTN integrates data from millions of businesses, enabling real-time tax collection monitoring. It supports government policy by providing detailed tax revenue information. GSTN data is used in GDP estimation to track outward supply of goods and services, reflecting economic activity. The network enhances tax compliance and transparency since GST implementation in 2017.

WHY IN NEWS?

GSTN data on outward supply of goods and services for Q4 FY 2024-25 was used by NSO for compiling provisional GDP estimates, reflecting updated economic activity.

Greenium

Greenium is the premium investors pay for green bonds compared to conventional bonds, reflecting demand for environmentally sustainable investments. It typically results in lower yields for green bonds, making them attractive to issuers. The concept emerged with the rise of green finance, promoting projects with positive environmental impact. Greenium varies by market conditions, issuer credibility, and bond tenor. It influences investor behavior, encouraging capital flow into sustainable projects. The term combines



“green” and “premium,” denoting the financial advantage tied to environmental benefits. Greenium is a key metric in assessing the economic value of green bonds in global capital markets.

WHY IN NEWS?

The Reserve Bank of India rejected bids for 30-year sovereign green bonds as investors did not offer the expected greenium, demanding higher yields instead.

Gross Fixed Capital Formation

Gross Fixed Capital Formation (GFCF) measures the net increase in physical assets within an economy, including infrastructure, machinery, and buildings. It excludes financial assets and inventories. GFCF is a critical indicator of investment levels and economic growth potential. In India, GFCF has hovered around **25% of GDP since 2014**, reflecting stagnant private sector investments despite government efforts. It is closely watched as a gauge of future productive capacity. High GFCF usually signals robust industrial expansion, whereas low or flat GFCF can indicate underinvestment and potential economic slowdown risks. GFCF data is compiled by national statistical agencies and international bodies like the World Bank.

WHY IN NEWS?

Indias GFCF remains stagnant at 25% despite government infrastructure spending, denoting the challenge of boosting private sector capital expenditure amid weak demand and capacity utilization of 75%.

Gross Value Added (GVA) in Agriculture

Gross Value Added (GVA) in agriculture per worker in India rose from **₹61,247 in 2015-16 to ₹94,110 in 2024-25**. GVA measures the value of goods and services produced minus the cost of inputs, reflecting productivity and income per agricultural worker. This increase indicates enhanced agricultural efficiency and profitability. Factors contributing include technological adoption, improved crop yields, government support, and better market access. GVA is a key economic indicator used to assess sectoral contributions to GDP and worker welfare in rural India.

WHY IN NEWS?

The NIF 2025 report brought into light the rise in agricultural GVA per worker, signaling improved productivity and income levels in the farming sector.

Gross Value of Output (GVO)

The **Gross Value of Output (GVO)** measures the total value of agricultural and allied sector products at constant prices, excluding intermediate consumption. It includes outputs from crops, livestock, forestry, fishing, and aquaculture. GVO differs from Gross Value Added (GVA) as it does not subtract input costs. The NSO uses 2011-12 as the base year for constant price calculations. GVO data helps in understanding sector growth and productivity trends over time. It is a key indicator for agricultural policy and economic planning in India. The crop sector dominates GVO with over 54% share in 2023-24.

WHY IN NEWS?

The NSO released the 2011-12 to 2023-24 Statistical Report on GVO, showing a 54.6%



increase in agriculture and allied sector output at constant prices, denoting sector growth and changing crop contributions.

Integrated GST (IGST)

Integrated Goods and Services Tax (**IGST**) is a key component of India's GST system, applied on inter-state supplies of goods and services. It is collected by the central government and later apportioned between the center and the states involved in the transaction. IGST ensures seamless flow of tax credit across state borders, preventing the cascading effect of taxes. Unlike CGST and SGST, which apply to intra-state sales, IGST applies only to inter-state trade and imports. The IGST mechanism supports the concept of a unified national market by maintaining tax neutrality on interstate transactions. Recently, IGST revenues stood at about ₹1.09 lakh crore.

WHY IN NEWS?

IGST revenues contributed to the gross GST collections crossing ₹2 trillion in May 2025, denoting the importance of inter-state trade and imports in the current tax revenue growth.

International UPI Payments

Unified Payments Interface (UPI) is an Indian real-time payment system facilitating instant money transfers between bank accounts via mobile devices. Since 2023, India has expanded UPI acceptance to international merchant outlets in seven countries – Bhutan, France, Mauritius, Nepal, Singapore, Sri Lanka, and the UAE. This cross-border UPI integration allows Indian tourists and NRIs to make seamless payments abroad without currency conversion hassles. It represents step in exporting India's fintech innovations globally. UPI operates on a standardized platform, promoting interoperability and financial inclusion. The initiative aims to boost international trade, tourism, and digital payment adoption worldwide.

WHY IN NEWS?

Sitharaman mentioned the acceptance of international merchant payments through UPI in seven countries as a key achievement and growth opportunity at the Digital Payments Awards 2025.

IRAC Norms

The **Income Recognition and Asset Classification (IRAC) norms** are guidelines issued by the Reserve Bank of India to banks for classifying and recognizing income from loans and advances. Borrowed funds are classified into standard, substandard, doubtful, and loss assets based on the duration of default and risk factors. These norms help banks identify non-performing assets (NPAs) and ensure timely provisioning against potential losses. IRAC norms were first introduced in the 1990s and are critical for maintaining the financial health of banks by preventing the understatement of bad loans. They also influence the capital adequacy and lending capacity of banks.

WHY IN NEWS?

The RBI imposed penalties related to violations of IRAC norms among other regulations



during the financial year ending March 31, 2025.

Make in India Initiative

Make in India is a government program launched in 2016 to encourage domestic manufacturing and attract foreign investment. It aims to increase the manufacturing sectors share in GDP, create jobs, and boost exports. The initiative focuses on sectors like automobiles, electronics, textiles, and defense manufacturing. Despite efforts, manufacturing growth in India has lagged behind agriculture since 2019, with a CAGR of 4.04%. Make in India also seeks to improve infrastructure, ease regulations, and promote innovation to strengthen Indias global manufacturing competitiveness.

WHY IN NEWS?

Slower manufacturing growth in FY25 GDP data marks challenges in achieving the Make in India initiatives goals amid broader economic deceleration.

Maritime India Vision 2030

Maritime India Vision 2030 is a strategic initiative by the Government of India to transform the maritime sector by 2030. It focuses on port modernization, green shipping, shipbuilding, and digitalization. The vision aims to enhance Indias maritime infrastructure, increase cargo handling capacity, and promote sustainable maritime logistics. It includes encouraging innovation in ship design, renewable energy integration, and smart port technologies. The initiative also emphasizes upskilling human resources and expanding Indias share in global maritime trade. It aligns with Indias broader economic goals and regional security frameworks, including partnerships with countries like Japan.

WHY IN NEWS?

The vision is brought into light in the India-Japan bilateral talks aiming to attract Japanese investment and expertise to accelerate Indias maritime sector modernization.

Minimum Support Price (MSP)

The **Minimum Support Price (MSP)** is a government-set price at which it purchases crops directly from farmers to protect them from sharp price declines. Introduced in the 1960s, MSP covers major crops including cotton, wheat, and rice. It serves as a safety net ensuring farmers a minimum income regardless of market conditions. MSP is announced before each sowing season and is based on recommendations from the Commission for Agricultural Costs and Prices (CACP). The MSP influences cropping patterns and agricultural economics but often leads to budgetary pressure due to large-scale procurement operations.

WHY IN NEWS?

An 8% increase in MSP for cotton has been announced for the 2025-26 season, impacting government expenditure and cotton procurement strategies.

Monetary Policy Committee (MPC)

The Monetary Policy Committee (MPC) of the Reserve Bank of India consists of six members, including three from the RBI and three external experts appointed by the government. It was established in 2016 to bring transparency and accountability to



monetary policy decisions. The MPC meets at least four times a year to decide on key rates like the repo rate. Decisions are made by majority vote, with the RBI Governor having a casting vote in case of ties. The MPC aims to maintain inflation within a target range of 4% \pm 2%, balancing growth and price stability.

WHY IN NEWS?

The RBI's MPC is expected to cut the repo rate by 25 basis points in its June 2025 meeting to support economic growth and adjust inflation forecasts for FY26.

National Monetisation Pipeline

The **National Monetisation Pipeline (NMP)** is an initiative by the Government of India to unlock value from public assets by transferring operational infrastructure to private investors through monetization. It covers multiple sectors including roads, railways, power, and airports. The NMP aims to raise over ₹6 lakh crore between 2022 and 2025 by leasing or selling revenue-generating assets without transferring ownership. It promotes efficiency, asset optimization, and private sector participation. The pipeline includes a transparent, phased approach to asset monetization aligned with the government's fiscal consolidation and infrastructure development goals.

WHY IN NEWS?

NHAI has raised over ₹1.4 lakh crore from more than 6,100 km of highways under the National Monetisation Pipeline as part of its new asset monetization strategy.

Nominal GDP Growth

India's **nominal GDP** growth measures the total market value of goods and services produced in current prices without adjusting for inflation. It expanded by **9.8%** in FY25, reaching Rs **330.7 trillion**. Nominal GDP growth rates reflect both real economic growth and inflation effects. Between FY14 and FY25, nominal GDP grew at a compound annual growth rate (CAGR) of **10.3%**. The nominal GDP includes all sectors, contrasting with the BS1000 which covers only the largest non-financial corporations. Nominal GDP growth often outpaces corporate revenue growth due to faster expansion in smaller firms and sectors outside the BS1000.

WHY IN NEWS?

Nominal GDP growth outpaced the revenue growth of India's top 1,000 non-financial firms in FY25, underscoring a structural divergence in economic performance metrics.

Non-Conventional Energy Sector FDI

FDI in India's non-conventional energy sector (renewables) rose from 1.5% to 3% of total FDI between 2015 and 2025. This increase coincides with government initiatives promoting green technologies and renewable energy investments. The rise offsets the decline in conventional power sector FDI, reflecting a strategic shift towards sustainability. Renewable energy investments include solar, wind, and bioenergy projects, supported by policy incentives and growing global interest in clean energy.

WHY IN NEWS?

Growing FDI inflows into renewable energy sectors demonstrate India's transition towards green technology and sustainability goals as of 2025.



Non-Tariff Barriers (NTBs)

Non-Tariff Barriers (NTBs) refer to trade restrictions that do not involve tariffs but still limit imports or exports. These include quotas, import licensing, sanitary and phytosanitary measures, technical standards, and customs procedures. NTBs can be used to protect domestic industries or address health and safety concerns but often create obstacles to market access. They have become a major concern in global trade as they are less transparent and harder to quantify than tariffs. The WTO's dispute settlement system has frequently addressed NTB-related conflicts, but the rise of NTBs has complicated trade negotiations and enforcement.

WHY IN NEWS?

India called for urgent WTO reforms to tackle non-tariff barriers during the Paris mini-ministerial meeting, denoting their impact on restricting market access and distorting trade.

OPEC+ Alliance

OPEC+ is an expanded coalition of the Organization of the Petroleum Exporting Countries (OPEC) and 10 additional non-OPEC oil-producing countries, including Russia, Mexico, and Kazakhstan. Formed in 2016, it coordinates oil production policies to stabilize global oil markets. OPEC+ has managed production cuts and increases collaboratively, influencing global oil prices. The alliance's decisions can impact supply, demand, and pricing dynamics worldwide. Its members represent over half of the world's oil production. The group has faced challenges balancing member interests and geopolitical tensions, especially amid shifting global energy demand and sanctions regimes.

WHY IN NEWS?

OPEC+ has begun to unwind nearly five years of production cuts, reshaping oil supply trajectories amid changing global demand forecasts.

Open Market Operations (OMO)

Open Market Operations (OMO) are the buying and selling of government securities by the central bank to regulate liquidity and money supply. The RBI uses OMOs to inject or absorb durable liquidity, influencing interest rates and inflation. Recently, OMOs contributed Rs 5.2 trillion to liquidity injection, including secondary market purchases. OMOs affect short-term interest rates and help maintain monetary stability. They are distinct from repo operations as OMOs involve outright purchase or sale of securities rather than collateralized borrowing. OMOs are a primary tool for long-term liquidity management.

WHY IN NEWS?

OMO purchases were part of the RBI's Rs 9.5 trillion liquidity injection strategy in 2025 to shift the system from deficit to surplus liquidity.

PM MITRA Parks

PM MITRA (Mega Integrated Textile Region and Apparel) Parks are large-scale textile manufacturing clusters initiated by the Government of India to boost the textile sector.



These parks integrate spinning, weaving, processing, and garment manufacturing units in one location to improve efficiency, reduce logistics costs, and promote exports. Each park benefits from state-of-the-art infrastructure, including renewable energy and waste management systems. The scheme aims to attract investments, generate employment, and enhance India's global textile competitiveness. As of 2025, several PM MITRA parks are operational or under development across different states.

WHY IN NEWS?

The Task Force on Textiles Exports in June 2025 discussed accelerating the development and utilization of PM MITRA Parks to enhance export capabilities.

Production-Linked Incentive (PLI) Scheme

The Production-Linked Incentive (PLI) scheme is a government initiative designed to boost domestic manufacturing by providing financial incentives linked to production output. It aims to increase local value addition, reduce import dependence, and enhance competitiveness in global markets. PLI schemes have been implemented in various sectors such as electronics, pharmaceuticals, and automotive components. Incentives are typically graded based on the level of indigenization and value addition. The scheme encourages R&D investments and job creation. The PLI model has been effective in attracting large investments and encouraging the growth of strategic industries in India.

WHY IN NEWS?

FIMIs report advocates introducing a PLI scheme specifically for electric and alternate fuel-based HEMMs to stimulate domestic manufacturing and support India's net-zero emission goals by 2070.

Public-Sector Banks (PSBs)

Public-Sector Banks (PSBs) in India are banks where the government holds a majority stake, usually over 50%. They dominate the Indian banking sector and play a key role in financial inclusion and priority sector lending. PSBs have undergone several recapitalization efforts by the government to strengthen their capital base. Despite challenges like non-performing assets (NPAs), PSBs maintain higher regulatory capital ratios compared to private banks. Examples include State Bank of India, Canara Bank, Union Bank of India, and Bank of Maharashtra. PSBs are mandated to support government schemes and economic growth by lending to productive sectors.

WHY IN NEWS?

The Union Finance Minister urged PSBs to increase lending activities following a sharp decline in credit growth, denoting their strong capital adequacy and role in economic expansion.

Pumped Storage Plants (PSPs)

Pumped Storage Plants (PSPs) are hydroelectric facilities that store energy by pumping water from a lower reservoir to an upper reservoir during low electricity demand. During peak demand, water is released back to the lower reservoir, generating electricity via turbines. PSPs act as large-scale energy storage, balancing grid supply and demand. They



have rapid response times and high efficiency (70-80%). PSPs are crucial for integrating intermittent renewable energy sources. India has several PSPs, and these projects qualify for incentives like inter-state transmission charge waivers if commissioned by specified deadlines.

WHY IN NEWS?

The government extended the 100% waiver of inter-state transmission charges for PSPs and battery storage projects until June 30, 2028, to encourage energy storage development.

Rare Earth Element Processing Capacity

Global rare earth element processing is dominated by China, which controls approximately **90% of the world's refining capacity**. Other processors include Malaysia and Vietnam, which together account for about 7-8% of capacity. Processing involves separating and purifying rare earth elements from mined ores, a complex and environmentally challenging procedure. Countries like India lack domestic processing facilities, leading to dependency on external processors. Transferring raw materials from China to Southeast Asia for processing increases costs and delays supply chains by three to four weeks. This concentration of processing capacity affects global supply security for high-tech industries.

WHY IN NEWS?

India is exploring alternatives to China's rare earth processing monopoly, considering Malaysia and Vietnam as potential partners to secure stable supplies of critical materials for magnets used in EVs and renewable energy.

Refinery Products Output

Refinery products output includes petrol, diesel, kerosene, liquefied petroleum gas (LPG), and other petroleum derivatives produced by oil refineries. India is the world's third-largest consumer of petroleum products, with a refining capacity exceeding 250 million tonnes per annum. Refinery output fluctuates based on crude oil availability, domestic demand, and export-import dynamics. The sector is influenced by global crude prices, government policies on fuel pricing, and environmental norms. Refinery products are vital for transportation, industry, and household energy needs. The 1.1% growth in May 2025 followed a 4.5% contraction in April, indicating some recovery amid broader industrial challenges.

WHY IN NEWS?

Refinery products output grew by 1.1% in May 2025 after contracting sharply in April, partially offsetting declines in other core sectors during the month.

Repo Rate

The repo rate is the interest rate at which the Reserve Bank of India lends short-term funds to commercial banks against government securities. It is a key monetary policy tool used to control liquidity and inflation. Changes in the repo rate influence borrowing costs across the economy, affecting consumer spending and investment. The term "repo"



stands for “repurchase agreement,” where banks sell securities with a commitment to repurchase them later. The repo rate is reviewed regularly by the MPC to align with economic conditions and inflation targets.

WHY IN NEWS?

The repo rate is expected to be cut by 25 basis points to 5.75% in June 2025, following earlier cuts, to maintain an accommodative stance amid India’s economic growth rebound.

Reserve Bank of India (RBI)

The Reserve Bank of India is India’s central banking institution, established in 1935, responsible for regulating the country’s monetary policy, issuing currency, and supervising financial institutions. It manages inflation, currency stability, and economic growth through tools like repo rates, cash reserve ratios, and priority sector lending mandates. The RBI also acts as a lender of last resort and oversees payment systems. It periodically reviews banking regulations to balance economic growth with financial stability. The RBI’s decisions impact banking operations, credit availability, and overall economic health in India.

WHY IN NEWS?

The RBI announced a policy change reducing the priority sector lending quota for small finance banks, affecting banking regulations and lending patterns in India.

Reserve Bank of India (RBI) Monetary Policy

The **Reserve Bank of India (RBI)** sets the benchmark interest rates and monetary policy to regulate inflation and support economic growth. Its key tool is the repo rate, which influences lending and borrowing costs across the economy. The RBI follows a flexible inflation targeting framework with a target CPI inflation of $4\% \pm 2\%$. Decisions are made bi-monthly by the Monetary Policy Committee (MPC). The RBI also monitors wholesale inflation (WPI) to gauge input price pressures. Rate cuts or hikes depend on inflation trends, economic growth, and global factors affecting the Indian economy.

WHY IN NEWS?

Economists expect the RBI to consider further interest rate cuts in 2025 following the easing of wholesale and retail inflation, which reached the lowest levels in years.

Reserve Bank of India Market Intervention

The Reserve Bank of India (RBI) intervenes in foreign exchange markets to maintain orderly conditions and prevent excessive volatility in the rupee’s exchange rate. It uses tools such as selling or buying US dollars to manage liquidity and stabilize the currency without targeting a fixed exchange rate or band. Such interventions help contain sharp depreciation or appreciation, supporting economic stability. The RBI’s actions are discretionary and aim to smoothen market movements rather than fix the rupee’s value. These interventions are crucial during periods of high capital flows or external shocks affecting the currency.

WHY IN NEWS?

The RBI’s intervention through dollar sales was noted as a factor in the recent decline of



Indias forex reserves by \$1.02 billion in June 2025.

Reserve Position with IMF

The Reserve Position with the IMF represents the amount of IMF resources that a member country can access without restrictions. It reflects the countrys quota subscription minus any IMF credit outstanding. This position is part of a countrys foreign exchange reserves and is readily available for financial needs. Indias reserve position with the IMF was \$4.4 billion as of June 2025, increasing by \$14 million recently. This component provides liquidity and financial flexibility to manage balance of payments crises or external shocks.

WHY IN NEWS?

Indias reserve position with the IMF edged up, contributing to the overall strengthening of its foreign exchange reserves in a volatile global environment.

Revenue Deficit

The **revenue deficit** is the difference between the government's revenue expenditure and revenue receipts. It indicates the extent to which the governments current income falls short of meeting its current expenses. Unlike fiscal deficit, which includes capital expenditure, revenue deficit focuses only on the operational side of public finances. A high revenue deficit suggests borrowing for routine expenses, which is unsustainable. For FY25, Indias revenue deficit stood at Rs 5.67 lakh crore or 92.9% of the budget target, reflecting the governments effort to control non-capital expenditures while maintaining essential services and subsidies.

WHY IN NEWS?

Indias revenue deficit for FY25 was reported at 92.9% of the budget target, denoting fiscal discipline amid increased capital spending and subsidy outlays.

Revenue Receipt Transactions

Revenue receipt transactions refer to government income streams collected by banks on behalf of the government, including taxes, fees, fines, and other non-debt receipts. These transactions can be processed electronically or physically, with electronic mode being faster and more cost-effective. The commission paid to banks for handling these transactions incentivizes efficient and timely collection. The Reserve Bank of India monitors and revises the commission rates to ensure banks are fairly compensated while promoting digitization of government collections.

WHY IN NEWS?

The RBI raised the agency commission for banks on electronic mode revenue receipt and payment transactions from Rs 9 to Rs 12 per transaction.

Rules of Origin (ROO)

Rules of Origin are criteria used in trade agreements to determine the national source of a product. They prevent trade deflection by ensuring only goods substantially produced or transformed in member countries qualify for tariff concessions. In AITIGA, strict adherence to ROO is a key Indian demand to curb unfair trade practices. ROO verification involves checking the percentage of local content and production processes. Non-



compliance can lead to denial of tariff benefits and anti-dumping measures. ROO enforcement is critical in maintaining the integrity of free trade agreements and preventing misuse by third countries.

WHY IN NEWS?

India demands stricter enforcement of Rules of Origin under AITIGA to prevent misuse and protect its exports amid stalled trade negotiations with ASEAN.

SEEDS Initiative

The **SEEDS (Supply of Equipment for Efficient Development of SMEs)** initiative is an Government of India program designed to provide machinery and technical support to small and medium enterprises (SMEs) in partner countries. It focuses on enhancing productivity and income generation in sectors like agriculture and manufacturing. The initiative often involves dispatching specialized equipment, training, and capacity-building measures. SEEDS aims to encourage sustainable economic growth and bilateral cooperation. It is relatively new and less publicized compared to other foreign aid programs. The initiative targets improving local industries by leveraging Indian technology and expertise.

WHY IN NEWS?

India dispatched the final batch of machinery for passion fruit processing to Suriname under the SEEDS initiative, aiming to boost SME development and farmers incomes.

Semicon India Programme

The **Semicon India programme** was launched in 2022 with an outlay of ₹76,000 crore to boost semiconductor manufacturing in India. It aims to attract global semiconductor companies through financial incentives, infrastructure support, and technology development. The programme targets the entire semiconductor ecosystem, including design, fabrication, and packaging. It emphasizes public-private partnerships and research collaborations. The initiative is part of Indias broader strategy to reduce import dependence and develop self-reliance in electronics. It also focuses on skill development and innovation in semiconductor technology within the country.

WHY IN NEWS?

The programme forms the basis for recent government steps to relax SEZ rules and encourage domestic semiconductor and electronics manufacturing.

Serious Fraud Investigation Office (SFIO)

The Serious Fraud Investigation Office (SFIO) is a multi-disciplinary organization under the Ministry of Corporate Affairs. It investigates complex financial frauds and corporate crimes. Established in 2003, SFIO has powers to probe offenses under the Companies Act, Prevention of Corruption Act, and Indian Penal Code. It works closely with enforcement agencies like CBI and ED. SFIOs investigations often lead to prosecution and recovery of defrauded assets. It has a team of experts in finance, law, forensic auditing, and information technology. SFIO reports directly to the Ministry of Corporate Affairs and submits findings to courts or tribunals.



WHY IN NEWS?

SFIO recently dropped charges against 60 individuals and entities in the Gitanjali Gems fraud case involving wilful default and diversion of funds.

Service Intermediaries Taxation

Service intermediaries under GST refer to entities acting as middlemen in service transactions, often within multinational company structures. Currently, these intermediaries are taxed at 18%, even when services are provided to overseas clients. This leads to double taxation, as Indian importers pay customs duty on the full value, including intermediary charges. The tax exposure on this sector is estimated at around ₹3,500 crore. The issue affects foreign exchange earnings and compliance costs. Courts have supported zero-rating such exports, but the GST law has yet to fully adopt this approach, causing industry concern.

WHY IN NEWS?

The GST Council is set to finalize tax treatment on service intermediaries, aiming to remove 18% tax on services provided abroad by Indian arms of MNCs, potentially easing a ₹3,500 crore tax burden.

Shongtong-Karcham Hydroelectric Project

The **Shongtong-Karcham Hydroelectric Project** is a 450-MW hydroelectric power plant located in **Kinnaur district, Himachal Pradesh**. It has been under construction for over 13 years and is expected to generate **Rs 1,000 crore in annual revenue**. The project includes a power house at **Karcham** and a barrage site at **Powari**. It is part of Himachal Pradesh's efforts to harness river resources for economic growth and green energy. The project is for state control over energy assets after delays and external management issues.

WHY IN NEWS?

Himachal Pradesh CM Sukhvinder Singh Sukhu set a firm November 2026 deadline for its completion, emphasizing state-led management and revenue benefits.

Small Finance Banks (SFBs)

Small Finance Banks (SFBs) are niche banks in India focused on serving unbanked and underbanked populations, especially micro and small enterprises. They were introduced under RBI guidelines in 2015 to promote financial inclusion. SFBs must allocate portion of their lending to priority sectors. They differ from universal banks by their restricted scope and capital requirements. SFBs can convert to universal banks upon meeting criteria. There are **11 SFBs as of 2025**, with some applying for universal bank status. Their loan portfolios are typically heavy in microfinance and small business loans.

WHY IN NEWS?

RBI's relaxation of PSL norms for SFBs is expected to help these banks diversify their loan books and prepare for potential conversion into universal banks.

Sovereign-linked Asset Manager

A **sovereign-linked asset manager** refers to an investment entity that manages funds primarily sourced from a government or sovereign wealth fund. These managers focus on



long-term, stable investments aligned with national interests, often in sectors like infrastructure, energy, and development projects. NIIF is an example, leveraging sovereign capital alongside private and institutional investors to mobilize large-scale infrastructure funding. This model blends public-sector oversight with private-sector efficiency, aiming to catalyze investments that support economic growth. Sovereign-linked asset managers face unique regulatory frameworks and have mandates that emphasize social and economic impact alongside financial returns.

WHY IN NEWS?

NIIFs recognition as a sovereign-linked asset manager was noted at its 6th Governing Council meeting, emphasizing its evolving role and partnerships with global sovereign wealth funds.

Special Drawing Rights (SDRs)

Special Drawing Rights (SDRs) are an international reserve asset created by the International Monetary Fund (IMF) in 1969 to supplement member countries' official reserves. SDRs are not a currency but represent a claim to currency held by IMF member countries. Their value is based on a basket of five major currencies – US dollar, euro, Chinese yuan, Japanese yen, and British pound. SDR allocations are distributed to countries in proportion to their IMF quotas. SDRs can be exchanged among governments for freely usable currencies in times of balance of payments needs. Indias external debt includes 4.6% denominated in SDRs as of March 2025.

WHY IN NEWS?

Indias external debt composition includes 4.6% denominated in SDRs, reflecting its role in the countrys foreign liabilities as of March 2025.

Special Economic Zones (SEZs) in India

Special Economic Zones (SEZs) in India are designated areas aimed at promoting exports and attracting foreign investment through tax incentives and relaxed regulations. Established under the SEZ Rules, 2006, they offer benefits like duty-free imports and exemption from certain taxes. Initially, SEZs for semiconductor manufacturing required a minimum contiguous land area of 50 hectares, which was reduced to 10 hectares in 2025 to encourage more investments. SEZ land had to be “encumbrance-free,” meaning free of legal claims, but this rule was relaxed to speed up approvals. SEZs traditionally focused on exports but can now supply domestically after duty payments.

WHY IN NEWS?

The Government of India amended SEZ Rules in June 2025 to reduce land size requirements and relax land ownership conditions, boosting semiconductor and electronics manufacturing domestically and enabling SEZs to sell products within India.

Spiritual Economic Zones

Spiritual Economic Zones are designated areas aimed at promoting industries related to spirituality, wellness, and traditional healing systems such as Ayurveda and Yoga. These zones focus on developing infrastructure to attract spiritual tourism and wellness



businesses. They facilitate employment opportunities and aim to reduce migration from rural or hill regions by creating local jobs. These zones integrate economic development with cultural and spiritual heritage, encouraging sustainable tourism and wellness practices. The concept aligns with India's broader strategy to enhance the global footprint of traditional knowledge systems and boost regional economies through specialized economic clusters.

WHY IN NEWS?

Uttarakhand announced the establishment of Spiritual Economic Zones in Garhwal and Kumaon divisions to develop international hubs for Ayurveda, yoga, and spiritual tourism, supporting local employment and curbing migration.

Statutory Liquidity Ratio (SLR)

The Statutory Liquidity Ratio (SLR) is a mandatory reserve requirement that Indian banks must maintain in the form of liquid assets like government securities, cash, or gold. It is set as a percentage of total net demand and time liabilities (NDTL). SLR aims to ensure banks maintain sufficient liquidity and control credit growth. The Reserve Bank of India periodically adjusts the SLR to influence money supply and inflation. Banks cannot lend these reserved funds, ensuring government securities' demand and providing a stable source of government financing. SLR was introduced in 1949 and remains a critical monetary policy tool.

WHY IN NEWS?

State government securities eligible for STRIPS must qualify for meeting banks' SLR requirements, linking bond market reforms to regulatory liquidity norms.

Treasury Bills (T-bills)

Treasury Bills are short-term debt instruments issued by the Government of India with maturities of 91, 182, or 364 days. They are zero-coupon securities sold at a discount and redeemed at face value, providing returns through the difference. T-bills are highly liquid and considered risk-free as they are backed by the central government. They play an important role in liquidity management and short-term borrowing needs of the government. Primary dealers, banks, and financial institutions are major participants in the T-bill market. T-bills are auctioned weekly by the Reserve Bank of India under the Liquidity Adjustment Facility (LAF).

WHY IN NEWS?

The government plans to borrow Rs 2.69 trillion via treasury bills in Q2FY26, reflecting short-term financing requirements amid fiscal adjustments.

Tri-Party Repo (TREPS)

The **Tri-Party Repo (TREPS)** market is a short-term borrowing mechanism where banks and financial institutions borrow funds using government securities as collateral, with a third-party custodian managing the transaction. Introduced in India to enhance liquidity management, TREPS facilitates overnight and term repo transactions without direct counterparty risk. The custodian ensures proper settlement and safe custody of securities.



TREPS volumes often exceed those in the call money market, reflecting its importance in liquidity operations. It provides a transparent and efficient platform for banks to manage their short-term funding requirements by leveraging their excess securities.

WHY IN NEWS?

Banks have been borrowing heavily from the TREPS market due to favorable interest rates, impacting liquidity flows and volumes in the overnight money market.

Unified Payments Interface (UPI)

The **Unified Payments Interface (UPI)** is an instant real-time payment system developed by the National Payments Corporation of India (NPCI) launched in 2016. It enables inter-bank transactions through mobile devices using a single identifier, eliminating the need for bank details. UPI processes over 50% of the world's digital transactions, making India a global leader in digital payments. It supports peer-to-peer and merchant payments and has been adopted by countries like France for cross-border transactions. UPI's open architecture encourages fintech innovation and financial inclusion, with ongoing efforts to expand its reach internationally, including potential integration with Cyprus.

WHY IN NEWS?

PM Modi brought into light UPI's role in India's digital revolution and mentioned ongoing talks to extend UPI services to Cyprus during his address at the India-Cyprus CEO Forum.

Variable-Rate Repo (VRR)

The Variable-Rate Repo (VRR) is a short-term liquidity management tool used by the Reserve Bank of India where banks borrow funds from the RBI at variable interest rates determined through auctions. Introduced in 2019, VRR operations allow the RBI to absorb or inject liquidity with more flexibility than fixed-rate repos. The interest rates in VRR auctions fluctuate daily based on demand and supply conditions. VRR is distinct from fixed-rate repos as it helps in fine-tuning liquidity without committing to a fixed cost. It is typically used for managing intra-day or short-term liquidity mismatches.

WHY IN NEWS?

The RBI suspended its daily VRR operations starting 11 June 2025, signaling ample surplus liquidity in the system, with a surplus near ₹2.6 trillion as per recent data.

Viability Gap Funding (VGF)

Viability Gap Funding (VGF) is a government financial support mechanism to make infrastructure projects financially viable by bridging the gap between project costs and expected revenues. It is typically provided as a one-time or phased grant during project implementation. VGF encourages private sector participation in projects that are economically justified but not financially attractive. In India, VGF is used in sectors like renewable energy, transportation, and urban infrastructure. The funding comes from dedicated government funds, such as the Power System Development Fund (PSDF) for energy projects, and is allocated based on competitive bidding processes.

WHY IN NEWS?

The Centre announced an additional VGF package of ₹5,400 crore for 30 GWh battery energy storage capacity, supplementing an existing ₹3,700 crore incentive, to boost



renewable energy storage infrastructure.

White Label ATMs

White label ATMs (WLAs) are automated teller machines operated by non-bank entities authorized by the Reserve Bank of India (RBI). They provide basic banking services such as cash withdrawal, balance inquiry, and mini statements for multiple banks. WLAs help increase ATM penetration in underserved or rural areas where banks have limited presence. Unlike bank-operated ATMs, WLAs do not accept cash deposits. By March 2025, there were around **36,000 white label ATMs** in India out of a total of 255,885 ATMs. These machines are crucial for financial inclusion and are managed by private firms under RBI guidelines.

WHY IN NEWS?

The RBI mandated that 75% of all ATMs, including white label ATMs, dispense Rs 100 or Rs 200 notes by September 30, 2025, to improve access to lower denomination currency.

Windfall Tax on Oil

A **windfall tax** is a one-time tax imposed by governments on companies that benefit from unexpected, excessive profits, often due to external market conditions like surging oil prices. Many oil-producing countries and some consumer nations levy windfall taxes on upstream oil companies to redistribute gains during price spikes. The tax can affect investment decisions and profitability in the oil sector. In India, windfall taxes were applied during periods of high crude prices but were scrapped recently, influencing the financial dynamics between upstream and downstream oil companies.

WHY IN NEWS?

The scrapping of windfall taxes in India was noted in June 2025 as a factor influencing the profitability outlook for upstream oil companies amid declining crude prices.

Yield Comfort Level

The **yield comfort level** is an internal benchmark used by the RBI or other debt managers to determine acceptable interest rates on government securities. It reflects the maximum yield at which the central bank is willing to borrow without causing excessive cost to the government or market disruption. If market participants demand yields above this level, the RBI may reject part or all of the auction bids. This mechanism helps maintain fiscal discipline and market stability by preventing borrowing costs from escalating beyond sustainable levels.

WHY IN NEWS?

The RBI accepted less than half the notified amount in the auction because bids came with yields higher than its comfort level, reflecting market resistance to higher borrowing costs.

Zero-Coupon Bonds (ZCBs)

Zero-coupon bonds (ZCBs) are debt securities issued at a deep discount to face value and redeemed at par on maturity, with no periodic interest payments. The investor's return is the difference between purchase price and maturity value. ZCBs are sensitive to interest



rate changes and usually have longer durations. They can be tax-efficient if approved by tax authorities such as the Central Board of Direct Taxes (CBDT) in India. ZCBs lack liquidity in secondary markets and are not favored by banks unless issuers maintain a redemption reserve. They appeal to investors seeking certainty of returns in declining interest rate environments.

WHY IN NEWS?

Demand for ZCBs has declined recently due to wider yield spreads, subdued investor interest, and concerns about liquidity and tax treatment in the current monetary policy context.

Geography (Indian & Physical)

Bairabi-Sairang Rail Project

The Bairabi-Sairang rail project is a 51.38-km new line railway initiative aimed at connecting Mizoram's capital, Aizawl, to the Indian Railways network. It is divided into four sections – Bairabi-Hortoki, Hortoki-Kawnpui, Kawnpui-Mualkhang, and Mualkhang-Sairang. Bairabi, located in Kolasib district near Assam's border, was previously the only railhead in Mizoram. The project is part of a larger Ministry of Railways effort to connect all northeastern state capitals by rail. It includes extensive tunneling and bridge construction in difficult terrain to improve regional connectivity.

WHY IN NEWS?

The final section of the Bairabi-Sairang project, Hortoki-Sairang, was cleared for operation, completing the rail link to Aizawl and advancing the northeast railway connectivity initiative.

Banas River

The **Banas River** is a tributary of the Chambal River, flowing primarily through Rajasthan. It originates from the Aravalli Hills near Kumbhalgarh and travels approximately 512 kilometers before joining the Chambal. The river basin supports agriculture and local ecosystems but is seasonal, often drying up in summer. The Banas River basin covers parts of several districts, including Tonk, where the recent drowning occurred. It is known for its sandy riverbed and flash floods during monsoon. The river's name means "Arrow" in Sanskrit, linked to a mythological story involving sage Vashistha.

WHY IN NEWS?

The drowning tragedy involving eight men occurred in the Banas River in Tonk district, Rajasthan, denoting the river's dangerous deep water zones during certain seasons.

Bhagat Ki Kothi

Bhagat Ki Kothi is a locality in Jodhpur, Rajasthan, known primarily for its railway station which serves as a key junction in the region. The station is a gateway for trains connecting Rajasthan with other parts of India, including the Thar Desert routes. It is historically important for its role in trade and passenger movement in western India. The area around Bhagat Ki Kothi has developed with railway-related infrastructure, including workshops and maintenance yards. It is strategically important for Indian Railways due to its location near



the Rajasthan-Gujarat border and proximity to desert tourism circuits.

WHY IN NEWS?

The first dedicated maintenance depot for Vande Bharat Express trains is under construction at Bhagat Ki Kothi in Jodhpur Railway Division, marking a major infrastructure development for Indian Railways.

Bhyundar Ganga

The Bhyundar Ganga is a mountain river flowing through the Chamoli district, Uttarakhand, and is a tributary of the Alaknanda River. It originates in the glaciers of the Nanda Devi Biosphere Reserve and carves through the Valley of Flowers, contributing to its unique ecosystem. The river supports a range of endemic flora and fauna and plays a critical role in maintaining the valleys biodiversity. Seasonal snowmelt from surrounding glaciers causes fluctuations in its flow, impacting the valleys flowering cycle and the accessibility of trekking paths. The river is also culturally for local communities.

WHY IN NEWS?

The Valley of Flowers, located in the upper reaches of the Bhyundar Ganga, reopened for tourists in June 2025 after winter closures.

Dibang River

The **Dibang River** is a major tributary of the Brahmaputra River, originating in the eastern Himalayas of Arunachal Pradesh. It flows through the Lower Dibang Valley district before joining the Brahmaputra in Assam. The river is known for its swift currents and is prone to seasonal flooding due to heavy monsoon rains. The Dibang basin hosts diverse flora and fauna, including rare aquatic species. The river plays important role in local agriculture and hydropower projects, such as the Dibang Multipurpose Project. Its riverine islands often become isolated during floods, complicating rescue operations.

WHY IN NEWS?

The Dibang River flooded, stranding 14 workers on a riverine island in Arunachal Pradeshs Lower Dibang Valley, necessitating an Indian Air Force aerial rescue mission.

Geographical Indication (GI) Tag

A **Geographical Indication (GI) tag** is a certification granted to products that originate from a specific region, where their quality, reputation, or unique characteristics are linked to that location. It protects the products name from misuse and ensures authenticity. GI tags apply to agricultural products, handicrafts, foodstuffs, and manufactured goods. The tag promotes regional economies by protecting indigenous knowledge and heritage. In India, the GI Registry is maintained under the Geographical Indications of Goods (Registration and Protection) Act, 1999, headquartered in Chennai. Products like Darjeeling tea and Kanchipuram silk have GI tags.

WHY IN NEWS?

Goan Feni and betel leaf (Kumbakonam vetrilai) recently received GI tags, denoting their unique regional identity and cultural significance in India.

Girdawari System

The **Girdawari system** is a traditional land record and crop area estimation method used



in rural India. It involves a village accountant called the **Patwari** who maintains and updates records of land ownership, crop types, and areas. This system has been in use for centuries and relies on manual surveys conducted during crop seasons. It primarily covers major crops and is prone to inaccuracies due to human error and delays. The system does not account well for emerging or diversified crops. It is being gradually replaced by digital and satellite-based methods for better accuracy and timeliness.

WHY IN NEWS?

The traditional Girdawari system is being replaced by satellite-based digital data for kharif crop acreage estimation starting September 2025 to improve accuracy and cover new crops.

Great Rann of Kutch

The **Great Rann of Kutch** is a vast salt marsh located in the Thar Desert in the Kutch district of Gujarat. It spans approximately 7,500 square kilometers and is one of the largest salt deserts in the world. This area experiences extreme seasonal variations, flooding during monsoons and becoming a dry salt flat in summer. The region is home to unique ecosystems including mangroves and supports diverse wildlife such as the Indian wild ass. Historically, it has been a site of human settlement and trade, with archaeological evidence linking it to prehistoric hunter-gatherer communities.

WHY IN NEWS?

Recent archaeological studies have revealed human presence in the Great Rann of Kutch at least 5,000 years before the Harappan civilization, based on shell remains and stone tools found on Khadir island.

Johar Valley

The **Johar Valley** is located in the Pithoragarh district of Uttarakhand, near the Indo-China border. It is named after the Johar people, an indigenous community known for their unique cultural practices and seasonal migrations. The valley is characterized by rugged terrain, alpine meadows, and is part of the Greater Himalayas. Historically, it was a route for trade and pilgrimage to Kailash Mansarovar. The valley experiences harsh winters, leading to seasonal migration of residents to lower altitudes. It remains one of the last inhabited regions close to the sensitive border areas with China.

WHY IN NEWS?

Milam, the last inhabited village of the Johar Valley, is facing accessibility issues due to the damaged Bailey bridge, impacting local residents who depend on seasonal migration and border connectivity.

Kalanamak Rice

Kalanamak rice is an aromatic, non-basmati rice variety cultivated mainly in the Siddharthnagar district of Uttar Pradesh. It has been grown since **600 BC** and holds a Geographical Indication (GI) tag. Known for its distinctive **black husk** and aroma, it contains higher antioxidant levels than regular rice. The grain is linked to a Buddhist legend where **Lord Buddha gifted it to people in Kapilvastu**. It is cultivated exclusively



during the monsoon season to maintain quality. Average yields are around **4 tonnes per hectare**, with production reaching **32.8 lakh tonnes in 2024-25**.

WHY IN NEWS?

Uttar Pradesh is establishing a research center for Kalanamak rice with IRRI to boost production, pest resistance, and exports, aiming to expand cultivation to 1,00,000 hectares in 2025-26.

Kalvarayan Hills

The **Kalvarayan Hills** are a part of the Eastern Ghats located in Tamil Nadu, spanning across Salem and Villupuram districts. These hills rise to an average elevation of about 1,200 meters and are home to several tribal communities, including the Malayali tribe. The region is characterized by dense forests, diverse flora and fauna, and a largely agrarian economy. Historically isolated due to difficult terrain, the hills have limited infrastructure and educational facilities. The area experiences a tropical climate with distinct wet and dry seasons. The hills are also known for traditional tribal customs and festivals unique to the indigenous population.

WHY IN NEWS?

The Kalvarayan Hills are mentioned as the remote location where 17-year-old A. Rajeshwari from the Malayali tribal community lives and studies, denoting the challenges faced by tribal students in accessing quality education.

Longding District

Longding district is one of the easternmost districts of Arunachal Pradesh, established in 2012 after bifurcation from Tirap district. It shares an international border with Myanmar and features a predominantly tribal population, including the Wancho tribe. The district is known for its hilly terrain, dense forests, and limited road connectivity. Longding has been a focus of counter-insurgency operations due to the presence of various armed groups crossing the border. Agriculture and shifting cultivation are the main economic activities. The district also hosts diverse flora and fauna, with several protected forest areas contributing to ecological balance.

WHY IN NEWS?

Longding district was the location of a security forces patrol that engaged with armed individuals near the border with Myanmar on June 5, 2025.

Mawsynram

Mawsynram, located in Meghalaya, is the wettest place on Earth, receiving an average annual rainfall exceeding **11,000 mm**. It lies on the windward side of the Khasi Hills, which trap moisture from the Bay of Bengal monsoon winds. The village experiences heavy rainfall mainly during the monsoon season from June to September. The unique topography causes intense orographic precipitation. Despite heavy rains, Mawsynram has a small population engaged mainly in agriculture. The area's climate supports lush vegetation and is prone to frequent landslides during the monsoon.

WHY IN NEWS?

Mawsynram is mentioned as the wettest place globally, illustrating the vast range of



monsoon rainfall across India, from Kerala's early rains to Mawsynram's extreme precipitation.

Mughal Road

The **Mughal Road** is an ancient imperial route that historically linked Srinagar in Kashmir to Lahore in present-day Pakistan. It passes through the Pir Panjal mountain range and was a key trade and travel route during the Mughal era. Due to heavy snowfall, the road is closed for about four months each winter, limiting connectivity. Modern infrastructure projects, including tunnels like Pir Ki Gali, aim to keep the road open year-round. The road is strategically important as an alternative to NH44, the main highway in Kashmir, especially for military and civilian access to border regions.

WHY IN NEWS?

The Mughal Road is central to recent infrastructure projects announced in June 2025 to improve all-weather connectivity and strategic mobility in Jammu and Kashmir.

Nagankudi Waterbody

Nagankudi was a waterbody referenced in a 13th-century inscription, sold along with adjacent wet and dry lands for 64 kasu. It had clearly defined boundaries as per the inscription, which also stipulated that tax revenue from the property be allocated to the maintenance of the Thennavanisvaram Temple. Nagankudi's sale and taxation show the role of water management and land resources in sustaining religious institutions in the Pandya era. The name "Nagankudi" suggests a possible connection to local water cults or serpent worship, common in South Indian agrarian societies.

WHY IN NEWS?

Nagankudi's sale is recorded on the newly discovered temple inscription, revealing economic practices related to land and water resource management in medieval Tamil Nadu.

Neelachal Hills

The Neelachal Hills, located in Guwahati, Assam, are the site of the Kamakhya Temple and hold deep religious significance as the Joni Peeth, believed to be where Goddess Sati's yoni fell. The hills are associated with Shakti worship and are central to tantric practices. During Ambubachi, the hills are said to turn crimson, symbolizing the goddess's menstruation and the earth's fertility. This natural and spiritual phenomenon marks the hills as a living aura of divine feminine energy. The hills also influence local ecology and culture, with agricultural activities paused during the festival period.

WHY IN NEWS?

The Neelachal Hills turned crimson during the 2025 Ambubachi festival, visually representing the sacred menstruation of Goddess Kamakhya and attracting tens of thousands of pilgrims.

Nethravathi River

The **Nethravathi River** originates in the Western Ghats near Kudremukh in Karnataka, and flows for about 128 kilometers before emptying into the Arabian Sea at Mangalore. It



supports agriculture and drinking water needs for Dakshina Kannada district. The river basin is home to several endemic fish species and diverse flora. The river's flow is highly seasonal, influenced by the southwest monsoon. The Manje Dam is dam on the Nethravathi, used for irrigation and hydroelectric power. The river is culturally important, with several temples along its banks. It faces pollution and encroachment challenges.

WHY IN NEWS?

Continuous rainfall has raised the Nethravathi River's water level near the danger mark, causing precautionary evacuations in Dakshina Kannadas Bantwal taluk.

Northeast Monsoon

The Northeast Monsoon, also called the retreating monsoon, occurs from October to December, primarily affecting Tamil Nadu and parts of Indias east coast. It brings rainfall after the southwest monsoon withdraws. Unlike the southwest monsoon, it originates from the northeast and carries moisture from the Bay of Bengal. This monsoon contributes to the annual rainfall in southeastern India and supports agriculture, especially rice cultivation. The Northeast Monsoon is less intense and covers a smaller area than the southwest monsoon but is crucial for water resources in the region.

WHY IN NEWS?

The text marks that India experiences two monsoons, with the Northeast Monsoon bringing important rainfall to Tamil Nadu and the east coast after the main southwest monsoon season ends.

Office of the Surveyor General of India

The **Office of the Surveyor General of India** is responsible for surveying and mapping the countrys geographical features. Established in 1767, it operates under the Survey of India. It provides critical geospatial data for administration, defense, and development. The office manages topographical mapping, geodetic control, and boundary demarcation. It uses modern technologies such as GIS, remote sensing, and satellite imagery. The office also standardizes definitions and classifications related to geographic features, such as islands, to ensure consistency across government agencies. It plays a key role in updating Indias territorial data periodically.

WHY IN NEWS?

The office conducted a reassessment of Indias offshore islands, standardizing counts and classifications, updating the official number of islands.

Pacific Ring of Fire

The Pacific Ring of Fire is a horseshoe-shaped zone around the edges of the Pacific Ocean characterized by **high seismic and volcanic activity**. It hosts about 75% of the world's active and dormant volcanoes and 90% of the worlds earthquakes occur here. The Ring spans multiple tectonic plates, including the Pacific, Nazca, and Indo-Australian plates, causing frequent subduction and volcanic eruptions. Countries along the Ring include Indonesia, Japan, the Philippines, and the west coasts of North and South America. Its geological activity shapes landscapes and poses risks to millions living nearby.



WHY IN NEWS?

Indonesias Mount Lewotobi Laki-Laki eruption is part of the ongoing volcanic activity typical of the Pacific Ring of Fire region.

Pir Ki Gali Tunnel

The **Pir Ki Gali Tunnel** is a 9-kilometer tunnel on the historic Mughal Road connecting Jammu's Pir Panjal region with Kashmir. It costs Rs 3,830 crore and aims to provide **all-weather connectivity** by bypassing heavy snowfall and avalanches that close the Mughal Road in winters. The tunnel connects Chatta Pani in Poonch to Zaznar in Shopian. It is strategically important as it offers an alternative route to NH44, ensuring year-round access to the Kashmir valley. The project is now managed by the Border Roads Organisation (BRO) after transfer from NHIDCL.

WHY IN NEWS?

Sanctioned in June 2025, the Pir Ki Gali Tunnel is a key infrastructure project for Jammu and Kashmir, enhancing connectivity and strategic access through the Mughal Road.

Pongchau Circle

Pongchau Circle is an administrative division within Longding district, Arunachal Pradesh. It lies near the international border with Myanmar and is characterized by dense forests and rugged terrain. The area is inhabited primarily by indigenous tribes such as the Wancho people. Due to its remote location and difficult topography, Pongchau Circle has limited infrastructure and connectivity. It is strategically important because of its proximity to the border, often witnessing cross-border movement and security challenges. The region experiences heavy monsoon rainfall, contributing to its thick forest cover and biodiversity.

WHY IN NEWS?

Pongchau Circle was the site of a security patrol encounter with unknown armed individuals near the Arunachal Pradesh-Myanmar border on June 5, 2025.

Pulan (Burang)

Pulan, also known as Burang, is a Tibetan border town near the tri-junction of India, Nepal, and China. It lies about 250 km east of Demchok, a disputed border area between India and China. Pulan serves as a key logistical hub for pilgrims traveling to Mount Kailash and Mansarovar Lake. The town hosts facilities for pilgrims, including accommodations like the Zhunzhu Pu hostel. It is strategically important due to its proximity to contested border points and is part of the route for the Kailash Mansarovar Yatra via Lipulekh Pass. The town has seen increased administrative attention for improving pilgrimage infrastructure.

WHY IN NEWS?

Pulan was mentioned as the resting place for Indian pilgrims during the 2025 Kailash Mansarovar Yatra, denoting its role in facilitating the pilgrimage amid renewed India-China cooperation.

Rabi Season

The Rabi season refers to the agricultural cropping cycle in India that begins with the onset of winter, typically from October to March. Major crops grown during this season



include wheat, barley, mustard, and peas. Rabi crops are sown after the monsoon rains have ended and rely on irrigation or residual soil moisture. The season is critical for food security and rural income, with harvests starting in late spring. Above-normal reservoir levels during the Rabi season improve irrigation prospects, boosting crop yields and rural demand. The Rabi season complements the Kharif season, which occurs during the monsoon months.

WHY IN NEWS?

Favorable Rabi season cash flows and high reservoir levels are expected to support rural demand and consumption stability in FY26.

Rameswaram Taluka

Rameswaram Taluka is an administrative division in Ramanathapuram district, Tamil Nadu, encompassing the town of Rameswaram and surrounding areas including Dhanushkodi. It is part of the Palk Strait region, known for its religious significance and biodiversity. The area features coastal ecosystems such as coral reefs, mangroves, and sandy beaches. Rameswaram is a pilgrimage site famous for the Ramanathaswamy Temple. The talukas economy relies on fishing, tourism, and agriculture. It lies within the Gulf of Mannar Biosphere Reserve, a marine biodiversity hotspot. The region faces environmental challenges like coastal erosion and habitat degradation.

WHY IN NEWS?

The Greater Flamingo Sanctuary notification covers parts of Rameswaram Taluka, emphasizing its environmental and cultural significance within Tamil Nadus conservation efforts.

Regional Rapid Transit System (RRTS)

The **Regional Rapid Transit System (RRTS)** is a high-speed rail network designed to connect major cities and suburbs in the National Capital Region of India. It operates at speeds up to 160 km/h, faster than conventional metro systems. The Delhi-Meerut RRTS corridor is the first operational line, covering approximately 82 km with 22 stations. RRTS aims to reduce travel time and congestion, integrating with metro and bus networks. It features advanced signaling, elevated tracks, and dedicated corridors to ensure punctuality. The system prioritizes accessibility for persons with disabilities and sustainable urban mobility.

WHY IN NEWS?

ADB's new five-year plan includes expanding RRTS corridors to boost urban connectivity and sustainable transport infrastructure in India.

Shillong City

Shillong is the capital of Meghalaya state in Northeast India, named after a deity of the indigenous Khasi community. It is situated at an average altitude of about **4,900 ft** and is characterized by hilly terrain and numerous streams. Shillong is known as the "Scotland of the East" due to its scenic landscape and climate. It hosts diverse flora and fauna, including endemic species. The city's fragmented urban forests and green corridors



support unique microhabitats that sustain sensitive species like the Shillong cascade frog, underscoring Shillongs ecological significance beyond its urban infrastructure.

WHY IN NEWS?

Shillongs urban forests and streams were the habitat where the new frog species *Amolops shillong* was discovered, emphasizing the city's ecological role.

Shipki-La

Shipki-La is a mountain pass located at an altitude of approximately **3,900 meters** in the Kinnaur district of Himachal Pradesh. It serves as a border crossing between India and Tibet (China) along the Sutlej River. Historically, Shipki-La was an important trade route for salt and wool between India and Tibet. The pass is part of the **Himalayan mountain range** and remains a strategic location for both military and cultural exchanges. Due to its high altitude and harsh weather, access has been tightly controlled, with limited civilian movement allowed until recent tourism initiatives.

WHY IN NEWS?

Shipki-La is central to Himachal Pradesh's new Border Tourism initiative, which aims to open regulated access to this strategic border village to promote sustainable tourism and local development.

South Salmara

South Salmara is a district in Assam, created in 2016 by bifurcating the Dhubri district. It is located near the India-Bangladesh border and has a mixed population, including indigenous Assamese communities and Bengali-origin Muslims. The district is known for its strategic geopolitical significance due to its proximity to Bangladesh. South Salmara faces challenges related to illegal immigration and ethnic tensions. The economy is primarily agrarian, with tea cultivation and fishing playing important roles. The district experiences frequent infrastructural and administrative challenges due to its remote border location and diverse demography.

WHY IN NEWS?

South Salmara is mentioned as one of the vulnerable areas where indigenous people are in minority and are being given arms licences by the Assam government for self-protection.

Sriharikota

Sriharikota is a barrier island located in the state of India of Andhra Pradesh, situated between the Bay of Bengal and Pulicat Lake. It is the site of the Satish Dhawan Space Centre (SDSC), India's primary satellite launch center. The island hosts multiple launch pads used for launching Polar Satellite Launch Vehicles (PSLV) and Geosynchronous Satellite Launch Vehicles (GSLV). Its geographic position near the equator allows efficient satellite launches into geostationary and polar orbits. The location is prone to cyclones and strong winds, requiring robust infrastructure. The spaceport began operations in the 1970s and has been very important for ISRO's space missions.

WHY IN NEWS?

Sriharikota is in the news as the NASA-ISRO SAR (NISAR) mission arrived at its spaceport



for launch preparations, marking collaboration between NASA and ISRO.

Summer Solstice

The **summer solstice** occurs when one of Earth's poles has its maximum tilt toward the Sun, resulting in the longest day and shortest night of the year in the Northern Hemisphere. It usually falls on June 20 or 21. The solstice has been celebrated in many cultures as a time of renewal and fertility. Ancient monuments like Stonehenge and Newgrange are aligned with the solstice sunrise or sunset. The event marks the official start of summer in many calendar systems. It also influences natural phenomena such as animal behaviors and plant growth cycles.

WHY IN NEWS?

International Yoga Day 2025 is celebrated on June 21, coinciding with the summer solstice, symbolizing light and balance in yogic philosophy.

Surya Tilak Phenomenon

The Surya Tilak phenomenon is a rare astronomical event engineered with precise calculations. It involves the appearance of a sun-like mark or halo during specific religious ceremonies or temple consecrations, symbolizing divine blessings. This phenomenon is achieved through architectural design and timing, aligning with solar positions to create a natural light effect on temple structures. It has been notably observed during important Hindu rituals, enhancing the spiritual ambiance. The phenomenon reflects the integration of science, astronomy, and religious customs in Indian temple architecture and rituals.

WHY IN NEWS?

The Surya Tilak phenomenon was brought into light as part of India's scientific achievements during the Ram Temple consecration, demonstrating the fusion of astronomy and cultural heritage.

Tawi River

The **Tawi River** is a major tributary of the Chenab River, flowing through the Jammu region of Jammu and Kashmir. It originates from the Kailash Kund glacier in the Pir Panjal range. The river stretches approximately 141 kilometers and is known for its rapid flow and seasonal fluctuations due to monsoon rains. The Tawi River basin supports agriculture and provides water for domestic and industrial use in Jammu city. It has several bridges, including the prominent Jewel Chowk Bridge. Sudden rise in water levels during heavy rains often causes local flooding and poses risks to residents and laborers involved in sand extraction.

WHY IN NEWS?

The Tawi River saw a sudden rise in water level on June 25, 2025, leading to the rescue of nine men trapped near the Jewel Chowk bridge during heavy rains in Jammu and Kashmir.

Yarlung Tsangpo River

The **Yarlung Tsangpo River** originates in Tibet and is the upper course of the Brahmaputra River. It flows eastward through the Tibetan Plateau before entering Arunachal Pradesh, where it is called the Siang River. The river is known for its deep



gorges, including the world's deepest canyon, the Yarlung Tsangpo Grand Canyon. China's \$137 billion hydroelectric project on the Yarlung Tsangpo aims to generate **60,000 MW**. The river supports diverse ecosystems and millions of downstream inhabitants in India and Bangladesh, relying on its water for agriculture and livelihoods.

WHY IN NEWS?

Concerns were raised over China's massive hydropower dam on the Yarlung Tsangpo and its potential impact on water flow and flooding in Arunachal Pradesh and downstream regions.

Environment & Ecology

30×30 Biodiversity Target

The **30×30** target is a global biodiversity goal to protect 30% of the planet's land and oceans by 2030. It was formally endorsed under the Convention on Biological Diversity and aims to halt biodiversity loss and preserve ecosystem services. The target emphasizes the protection of ecologically sensitive areas, including marine habitats, to combat climate change and species extinction. It requires coordinated international efforts, national legislation, and sustainable management practices. The initiative is linked to multiple UN agreements and sustainable development goals, making it a central benchmark for global conservation policies.

WHY IN NEWS?

The High Seas Treaty supports the 30×30 goal by focusing on protecting 30% of international waters, crucial for achieving the global biodiversity target by 2030.

Aerosol Cooling Effect

Aerosol cooling is caused by small particles like sulphate aerosols and sulphur dioxide that reflect sunlight, reducing atmospheric warming. These aerosols originate mainly from fossil fuel combustion. European air pollution regulations have reduced aerosol emissions, weakening their cooling effect. This reduction contributes to faster warming despite stable greenhouse gas emission growth rates. Aerosol cooling partially masked warming in the late 20th century, but its decline has revealed the full impact of greenhouse gases on temperature increases.

WHY IN NEWS?

The 2025 report attributes part of the recent rapid warming to the decline in aerosol cooling following stricter European air pollution controls.

Alang Ship Recycling Yard

The Alang Ship Recycling Yard, located in Gujarat, is one of the world's largest ship-breaking yards. It handles the dismantling of decommissioned ships, recovering steel and other materials. The yard has faced environmental and safety challenges, prompting efforts to adopt green technologies and improve health and safety standards. It plays a critical role in India's ship recycling industry, contributing to circular economy goals. Alang is recognized internationally for its capacity but is undergoing modernization to align with global environmental regulations, including those set by the Hong Kong International



Convention for ship recycling.

WHY IN NEWS?

Discussions between India and Norway brought into light Alangs potential for sustainable ship recycling practices using green technologies during their maritime cooperation talks in June 2025.

Albino Squirrel

Albino squirrels lack melanin, resulting in white fur and pink eyes. This genetic mutation occurs roughly in **1 in 100,000** squirrels. Albino squirrels face higher predation risks due to their visibility and potential vision problems. Their survival depends on habitat and predator density. The trait is recessive, so offspring may not inherit albinism even if one parent is albino. Albino squirrels have been documented in limited areas globally, including some parts of India like Banswara and Dungarpur districts. They often attract scientific interest due to their rarity and genetic uniqueness.

WHY IN NEWS?

A rare albino squirrel was spotted for the first time in Rajasthan's Tonk district, sparking interest among wildlife researchers and enthusiasts.

Alliance of Small Island States (AOSIS)

The **Alliance of Small Island States (AOSIS)** is a coalition of low-lying and small island countries vulnerable to climate change impacts. AOSIS advocates for predictable, accessible, and concessional public and grant-based climate finance, especially for adaptation and loss and damage. The group calls for tripling adaptation finance by 2030 and supports debt-for-climate swaps, climate bonds, and regional finance mechanisms to overcome barriers like high capital costs and foreign exchange risks. AOSIS emphasizes direct access to funds and reforms in international financial architecture to reduce conditionalities and credit rating biases that hinder small island states' climate resilience efforts.

WHY IN NEWS?

AOSIS demanded enhanced and equitable climate finance provisions at COP29 under the Baku to Belém Roadmap, denoting the vulnerability of small island states to climate change.

Amguri Corridor

The Amguri corridor is one of the four wildlife corridors within KKAL, located in Assam. It serves as a critical passage for species movement between forest patches. The corridor was the site of the first-ever camera-trap evidence of the endangered dhole in this region, with six photographic captures of a single individual recorded in 2022. The corridor lies close to human settlements and National Highway 37, emphasizing the challenges of wildlife coexistence with human infrastructure. It supports multiple threatened species and is crucial for maintaining biodiversity connectivity in the Indo-Burma biodiversity hotspot.

WHY IN NEWS?

The Amguri corridor gained attention following the discovery of the dhole, confirming its



role as habitat and movement pathway for this elusive carnivore.

Amrabad Tiger Reserve

The **Amrabad Tiger Reserve** is located in the Nallamala Hills of Telangana, covering approximately 2,800 square kilometers. It is one of the largest tiger reserves in India and part of the Nagarjunsagar-Srisailem Tiger Reserve complex. The reserve hosts diverse flora and fauna, including tigers, leopards, dholes, and over 200 bird species. It features rugged terrain with dense forests and deep valleys. The area is also home to several tribal communities. Conservation efforts focus on protecting endangered species and maintaining ecosystem balance. The reserve is crucial for tiger corridor connectivity between central and southern India.

WHY IN NEWS?

Illegal hunting using feral dogs was detected inside the Amrabad Tiger Reserve, raising concerns about wildlife disease transmission and ecological disruption within this protected area.

Antimicrobial Resistance (AMR)

Antimicrobial resistance (AMR) occurs when microbes such as bacteria, viruses, fungi, and parasites evolve to withstand drugs designed to kill them. AMR causes infections to become harder to treat, increasing mortality and healthcare costs. According to WHO, AMR could cause 10 million deaths globally by 2050, with India projected to account for 2 million. AMR spreads due to misuse and overuse of antimicrobials in humans, animals, and plants. Antibiotic residues in food products contribute to human exposure. AMR affects the effectiveness of antibiotics in veterinary and human medicine, necessitating coordinated global and national efforts to monitor and reduce antimicrobial use.

WHY IN NEWS?

AMR is central to India's new veterinary antibiotic reporting framework aimed at preventing the rise of drug-resistant infections by monitoring antibiotic use in animals.

Aravalli Green Wall Initiative

The **Aravalli Green Wall initiative** is a government-led environmental restoration project aimed at planting trees along the Aravalli mountain range to combat land degradation and improve air quality. It includes establishing 1,000 nurseries across 29 districts within the range to supply sustainable saplings. The initiative focuses on restoring green cover, enhancing wildlife corridors, and mitigating the effects of urbanization and illegal mining. The project was launched on **June 5, 2025**, coinciding with World Environment Day, with participation from state chief ministers and Prime Minister Narendra Modi. It targets the 81% degraded area in Rajasthan predominantly.

WHY IN NEWS?

The project was officially launched to address environmental degradation in the Aravalli region, with a focus on restoring forests and improving air quality across affected states.

Artificial Coral Reef

An artificial coral reef is a man-made underwater structure designed to promote marine



life growth, typically using materials like decommissioned ships, concrete, or other durable substrates. These reefs provide habitats for fish and other marine organisms, aiding biodiversity and restoring damaged ecosystems. The coral polyps attach to the structure and gradually build a reef over time. Artificial reefs also support tourism activities such as scuba diving and snorkeling. The project involving INS Guldar represents one of the first large-scale artificial reef initiatives in India, combining heritage preservation with ecological restoration and marine conservation.

WHY IN NEWS?

The artificial coral reef project will use the INS Guldar warship to encourage marine biodiversity and tourism off the Maharashtra coast.

Artificial Embankments

Artificial embankments are man-made structures built along riverbanks to prevent flooding and control water flow. While they protect human settlements and agricultural lands, these embankments alter natural river dynamics, reducing habitat availability for species dependent on natural floodplains. They impede the natural migration and breeding of aquatic animals, including crocodiles. In India, construction of such embankments has contributed to the fragmentation and degradation of crocodile habitats, especially affecting gharials that require undisturbed sandy riverbanks for nesting. Their presence also exacerbates erosion and sedimentation issues downstream.

WHY IN NEWS?

Artificial embankments are mentioned among the current threats to crocodile populations in India during the commemoration of the 50 years of crocodile conservation efforts.

Bacillus ayatagriensis

Bacillus ayatagriensis is a newly discovered soil bacterium isolated from the rhizosphere of mulberry plants at Raiganj University, Bengal. It exhibits strong antimicrobial properties and enhances seed germination, promoting plant health and productivity. The species name combines "Aayat" (from Sanskrit "Ayata") and "Krishi" (agriculture), named after the lead scientists daughter. This discovery is the first novel microbial species reported from Raiganj University and has been published in Scientific Reports. The bacterium holds potential for eco-friendly agricultural applications and sustainable farming practices.

WHY IN NEWS?

Researchers at Raiganj University announced the discovery of *Bacillus ayatagriensis*, denoting its potential for green agriculture and plant growth enhancement.

Barasingha (Swamp Deer)

The **barasingha**, or swamp deer, is a cervid species native to the Indian subcontinent, primarily found in wetland and grassland ecosystems. It is characterized by its distinctive 12-tined antlers, which give it its name ("barasingha" means "twelve-tined" in Hindi). Historically widespread, its range has drastically shrunk due to habitat loss and fragmentation. Key populations survive in protected areas like Kanha, Dudhwa, and Kaziranga National Parks. Barasingha prefers swampy grasslands and seasonal wetlands,



making it sensitive to habitat changes. Conservation efforts include reintroductions in Bandhavgarh and Satpura, but the species remains vulnerable due to its narrow ecological niche and genetic bottlenecks.

WHY IN NEWS?

The barasingha faces population bottlenecks and habitat fragmentation, with its survival threatened in east-central India, prompting conservation focus in tiger prey assessment reports.

Barwadih Western Forest Range

The **Barwadih Western Forest Range** is a forested area located in Latehar district, Jharkhand, forming part of the Palamau Tiger Reserve (PTR). It serves as a fringe area outside the core and buffer zones of the reserve. The range is characterized by mixed deciduous forests supporting diverse flora and fauna, including tigers, leopards, and various herbivores. It is also home to several indigenous communities who depend on forest resources for their livelihoods. The forest range plays important role in the ecological connectivity within the Palamau landscape, acting as a corridor for wildlife movement between protected areas.

WHY IN NEWS?

Jharkhand plans to establish its first tiger safari in the Barwadih Western Forest Range, outside the core and buffer zones of the Palamau Tiger Reserve, complying with Supreme Court directives on tiger safaris.

Basalt Rock in Carbon Capture

Basalt is a volcanic igneous rock rich in minerals like calcium, magnesium, and iron, which react quickly with carbonic acid during weathering. Its abundance and availability as a quarry byproduct make it cost-effective for ERW. Basalts rapid weathering enhances carbon dioxide sequestration by forming bicarbonate ions that eventually precipitate as stable carbonate minerals. However, some basalt sources may contain trace heavy metals, necessitating safety precautions during application. The effectiveness of basalt in carbon capture depends on particle size, application rate, and environmental conditions, with field trials showing variable carbon removal rates.

WHY IN NEWS?

Basalt is the primary rock used in ERW projects worldwide, including large-scale applications in Brazil and India, as part of efforts to increase carbon sequestration on agricultural lands.

Battery Storage Projects

Battery storage projects involve large-scale energy storage systems designed to store electricity for later use, enhancing grid stability and renewable energy integration. A 30 gigawatt-hour (GWh) project can store enough electricity to power millions of homes for hours during peak demand or outages. These projects use technologies like lithium-ion, flow batteries, or emerging solid-state batteries. Indias plan to develop 30 GWh battery storage is among the largest globally, aimed at reducing fossil fuel dependence and



managing renewable energy variability. Subsidies totaling 54 billion rupees are planned to attract investment, with tenders expected within three months.

WHY IN NEWS?

India announced plans to build 30 GWh battery storage projects with government subsidies to enhance renewable energy use and grid reliability, supporting its peak electricity demand management strategy.

Beej Utsav

The Beej Utsav is a four-day seed festival celebrated in tribal regions, particularly at the tri-junction of Rajasthan, Madhya Pradesh, and Gujarat. It focuses on preserving indigenous seeds and promoting agricultural sustainability. Activities include seed dialogues (Beej Samvad), biodiversity fairs, seed ball making, and plantation drives. The festival involves community honours such as Beej Mitra (seed friend) and Beej Mata (seed mother) awarded to farmers preserving seeds. It is organized by tribal institutions like Krishi Evam Adivasi Swaraj Sangathan and supported by groups such as Vaagdhara. The event emphasizes seed sovereignty and climate resilience through traditional seed use.

WHY IN NEWS?

Beej Utsav was held recently in over 60 village panchayats across Rajasthan, Madhya Pradesh, and Gujarat, with over 9,400 tribal participants learning indigenous seed preservation and sustainable farming techniques.

Bhagirathi Eco Sensitive Zone (BESZ)

The **Bhagirathi Eco Sensitive Zone** is a designated protected area surrounding the Gangotri National Park in Uttarakhand. It aims to regulate activities to conserve biodiversity and prevent environmental degradation. The zone falls under guidelines issued by the Central Pollution Control Board, restricting industrial and infrastructure projects. It includes fragile ecosystems like glaciers, forests, and riverine habitats linked to the Bhagirathi River. The BESZ Monitoring Committee oversees compliance with environmental norms, but its members sometimes have conflicting views on development projects. The zone is critical for preserving the Gangotri glacier, a major source of the Ganges River.

WHY IN NEWS?

The BESZ is in the spotlight due to controversy over a solid-waste incinerator installed within its boundaries, which environmentalists claim violates norms and threatens the ecology of Gangotri National Park.

Bharal (Blue Sheep)

The bharal, also known as blue sheep (*Pseudois nayaur*), is a caprid native to the high Himalayas, typically found at altitudes between 3,000 and 5,500 meters. It is a key prey species for snow leopards and other predators. The bharal has a bluish-grey coat that provides camouflage against rocky terrains. Males possess curved horns that can grow up to 60 centimeters. They are herbivores feeding mainly on grasses and herbs. Bharal live in herds, which can vary seasonally. Their population serves as an ecological indicator of the



health of Himalayan alpine ecosystems.

WHY IN NEWS?

Bharal are frequently sighted near Gangotri, Harsil, and Bhairon Ghati, areas brought into light in the recent report on wildlife habitats within Gangotri National Park.

Bharat Mandapam

Bharat Mandapam is a state-of-the-art convention center located in New Delhi, designed to host international conferences, exhibitions, and cultural events. It features modern architecture blending Indian cultural motifs with advanced technology. The venue supports large-scale events with multiple halls and exhibition spaces. It is part of the India International Convention and Expo Centre (IICC), aimed at boosting Indias global event hosting capabilities. Bharat Mandapam is equipped with sustainable infrastructure, including energy-efficient systems and waste management facilities. It plays a key role in promoting Indias environmental and cultural initiatives on global platforms.

WHY IN NEWS?

The Union Ministry of Environment, Forest and Climate Change celebrated World Environment Day 2025 at Bharat Mandapam, New Delhi, denoting the venues importance for national-level environmental events.

Bio-indicator Butterflies

Butterflies act as **bio-indicators**, meaning their presence and diversity reflect the health of an ecosystem. They are highly sensitive to **climate change** and environmental disturbances. A rise in butterfly species suggests **improvements in habitat quality** and ecological balance. India hosts about **1,500 butterfly species**, with Dudhwa Tiger Reserve alone now recording 180 species. Migratory species from nearby regions like Uttarakhand contribute to local populations. Butterfly species such as the **Gaudy Baron** and **Grey Count** are considered rare in this region, denoting the reserves unique biodiversity.

WHY IN NEWS?

The increasing number of butterfly species in Dudhwa Tiger Reserve signals a positive ecological trend, denoting the reserves environmental health and attracting scientific and tourist interest.

Biofuels Production Growth

Biofuels are renewable fuels derived from biological sources such as plants and waste. Global biofuels production is expected to increase by 680,000 barrels per day between 2024 and 2030, split evenly between ethanol and biodiesel. Brazil and India are leading producers, contributing 140,000 and 100,000 barrels per day of ethanol growth respectively, together accounting for 70% of the total increase. Biofuels are used mainly in transport to reduce fossil fuel dependence and greenhouse gas emissions. Growth is driven by policies promoting renewable energy and energy security in developing and emerging economies. Production relies on crops like sugarcane, corn, and oilseeds.

WHY IN NEWS?

The IEA report marks biofuels production growth as a key factor in the global transition away from fossil fuels amid uncertain oil market dynamics.



Bonnet Macaque

The **bonnet macaque** (*Macaca radiata*) is a primate species native to southern India, recognized by its distinctive hair resembling a bonnet. It was included in Schedule I of the Wildlife Protection Act, 1972, in 2022, granting it the highest level of legal protection. This inclusion restricts wildlife authorities from capturing or relocating them without explicit permissions. Bonnet macaques are highly adaptable and often raid crops and human settlements, causing agricultural damage. They live in troops and communicate through vocalizations and facial expressions. Their population explosion in Kerala has led to increased human-wildlife conflicts.

WHY IN NEWS?

Kerala seeks to remove bonnet macaques from Schedule I to regain authority to capture or relocate them due to their rising population and crop-raiding issues affecting farmers.

Central Asian Flyway Zone

The Central Asian Flyway (CAF) is a major migratory route for over 279 bird species, spanning from Siberia and Central Asia to the Indian subcontinent and the Maldives. It covers 30 countries and includes critical wetlands, rivers, and coastal areas serving as stopover and wintering sites. The CAF is vital for the conservation of endangered species like the Siberian Crane and Dalmatian Pelican. Wetlands along this flyway, such as those near Kakinada, are designated Important Bird Areas (IBAs) due to their biodiversity. Conservation efforts focus on habitat protection from industrial development and climate change impacts.

WHY IN NEWS?

The land being transferred to the Andhra Pradesh Maritime Board falls within the Central Asian Flyway Zone, raising ecological concerns due to its significance for migratory birds.

Clarion Clipperton Zone

The **Clarion Clipperton Zone (CCZ)** is a vast 6 million square kilometer area in the Eastern Pacific Ocean, rich in polymetallic nodules containing metals like cobalt, nickel, and manganese. It lies between Hawaii and Mexico and features numerous seamounts. The CCZ is under the jurisdiction of the International Seabed Authority (ISA) for mineral exploration beyond national waters. It hosts at least 20 species of cetaceans and a diverse array of benthic organisms, many of which remain poorly studied, especially regarding noise pollution impacts. The CCZ is a focal point for proposed deep-sea mining activities due to its mineral wealth.

WHY IN NEWS?

The CCZ is the proposed site for deep-sea mining by The Metals Company, raising environmental concerns about impacts on marine life, including whales and dolphins.

Coastal Regulation Zone-I (CRZ-I)

Coastal Regulation Zone-I (CRZ-I) is a legally protected zone in India designated to conserve ecologically sensitive coastal areas, including mangroves, coral reefs, and tidal creeks. Activities such as construction, land reclamation, and industrial expansion are



heavily restricted or prohibited in CRZ-I to protect biodiversity and prevent coastal erosion. The zone plays a vital role in maintaining marine ecosystems and supporting livelihoods dependent on coastal resources. Enforcement of CRZ-I regulations is the responsibility of state coastal zone management authorities, but violations, including illegal salt pan expansions and embankments, have been reported, causing ecological damage.

WHY IN NEWS?

Illegal expansion of salt pans into CRZ-I areas in Kachchh has led to mangrove loss and environmental degradation, prompting legal action and demands for restoration by the National Green Tribunal and local communities.

Commission for Air Quality Management (CAQM)

The **Commission for Air Quality Management in NCR and Adjoining Areas (CAQM)** was established in 2020 by the Government of India to oversee air quality management in the National Capital Region. It has regulatory powers to coordinate actions across multiple states and agencies. CAQM functions include monitoring pollution sources, enforcing pollution control measures, and promoting sustainable urban development. It works with various research institutions and state governments to implement scientific frameworks for pollution abatement. CAQM also facilitates data-driven decision-making through dedicated monitoring cells and digital dashboards to track air quality improvement projects.

WHY IN NEWS?

CAQM signed a tripartite MoU with CSIR-CRRI and SPA, New Delhi, to implement a standard framework for urban road redevelopment aimed at reducing road dust pollution in NCR.

Deep-Sea Polymetallic Nodules

Polymetallic nodules are potato-sized mineral deposits found on the ocean floor, composed mainly of manganese, nickel, copper, and cobalt. These nodules form over millions of years through slow precipitation of metals from seawater. They are abundant in areas like the Clarion-Clipperton Zone in the Pacific Ocean. Polymetallic nodules are highly sought after for their metal content, critical in battery and electronics manufacturing. Their extraction requires specialized deep-sea mining technology using remotely operated vehicles. Environmental impacts of nodule mining are under study, with concerns about habitat disruption and biodiversity loss on the seabed.

WHY IN NEWS?

Polymetallic nodules are the primary target of new deep-sea mining initiatives by China and other countries, driving geopolitical and economic competition for ocean resources.

Dhole (*Cuon alpinus*)

The dhole, or Asiatic wild dog (***Cuon alpinus***), is an endangered canid native to parts of Central and Eastern Asia. Historically widespread, its current range is less than 25% of its historic extent. Dholes live in social packs of up to 30 members but may hunt alone or in



pairs based on prey availability. They require large, undisturbed forests and prey populations to survive. Threats include habitat degradation, prey depletion, and retaliatory killings. The dhole was believed locally extinct in northeast India until its recent rediscovery in Assam's KAL, with the last confirmed sighting in Nagaland in 2011.

WHY IN NEWS?

The dhole is in the news due to its confirmed photographic evidence in Assam's KAL after being presumed locally extinct, indicating a possible population recovery or survival.

Dry Waste Collection Centers (DWCCs)

Dry Waste Collection Centers (DWCCs) are designated facilities for segregating and processing dry waste materials such as plastics, metals, and paper. Managed often by waste picker collectives, DWCCs enhance recycling efficiency and reduce landfill use. These centers provide employment opportunities and promote circular economy practices by channeling segregated dry waste to recycling industries. The NAMASTE Scheme supports 750 DWCCs to empower waste pickers, offering them capital subsidies and skill development. DWCCs play an important role in urban sanitation by improving waste management infrastructure and reducing environmental pollution.

WHY IN NEWS?

NAMASTE Scheme expansion includes strengthening Waste Picker Collectives to manage 750 Dry Waste Collection Centers as part of formalizing waste management efforts.

E-Waste Management Rules, 2022

The E-Waste Management Rules, 2022, are a set of regulations issued by the Government of India to govern the collection, recycling, and disposal of electronic waste. These rules expanded the scope to include 106 categories of electronic items, emphasizing extended producer responsibility (EPR) and formalizing the e-waste recycling sector. They aim to reduce environmental impact, promote sustainable practices, and ensure safe handling of hazardous materials in e-waste. The rules mandate producers to establish collection centers and ensure environmentally sound recycling, aligning with India's commitment to circular economy principles.

WHY IN NEWS?

The Delhi eco park will process e-waste covering all 106 categories listed under the E-Waste Management Rules, 2022, as part of its operations.

Early Warnings for All

Early Warnings for All is a global initiative launched by the United Nations to ensure that everyone worldwide has access to early warning systems for extreme weather and climate-related disasters by 2027. The program aims to strengthen the capacity of poorer countries to predict and prepare for disasters such as floods, heatwaves, and droughts, reducing loss of life and economic damage. It involves improving meteorological infrastructure, communication networks, and community preparedness. Early Warnings for All emphasizes the importance of actionable warnings reaching the "last mile," ensuring local populations receive timely and understandable alerts to enhance disaster



resilience.

WHY IN NEWS?

The initiative is brought into light as a critical tool for improving disaster management and resilience amid rising climate-related disasters, especially in vulnerable and low-income regions.

Eco-Development Committees (EDC)

Eco-Development Committees (EDCs) are local bodies formed within or near forest areas in India to involve forest-dependent communities in conservation and sustainable development. They act as a bridge between forest departments and tribal or rural populations, facilitating eco-friendly livelihood projects and resource management. EDCs receive funding and technical support from government agencies such as the State Forest Development Agency. Their activities often include awareness programs, skill development, and infrastructure projects like libraries or coaching centers, aimed at improving quality of life while promoting forest conservation.

WHY IN NEWS?

Three EDCs are implementing the establishment of new libraries in Kannampadi tribal settlements to promote reading habits and educational development among tribal residents.

Electric Vehicle Oil Displacement

Electric vehicles (EVs) are expected to displace about **5.4 million barrels per day** of global oil demand by 2030. EV sales reached a record 17 million in 2024 and are projected to exceed 20 million in 2025. The displacement effect is most pronounced in passenger vehicles but includes two- and three-wheelers, especially in India. This shift is accelerating due to government policies, improved battery technology, and environmental concerns. Despite this, the growth of vehicle fleets in emerging economies like India outpaces EV adoption, limiting the net reduction in oil demand.

WHY IN NEWS?

The IEA report cites EV growth as a key factor reshaping global oil demand patterns, impacting projections for countries like India and China through 2030.

Elephant DNA Profiling

Elephant DNA profiling involves analyzing genetic material to identify individual elephants and understand population genetics. It aids in tracking captive and wild elephants, preventing illegal trade, and managing breeding programs. India has completed 1,911 genetic profiles across 22 states, enabling better management of elephant populations and helping resolve human-elephant conflicts. DNA profiling helps distinguish between wild and captive elephants, supports forensic investigations, and contributes to conservation policy planning. It is a relatively recent tool in wildlife conservation, enhancing scientific data accuracy beyond traditional census methods.

WHY IN NEWS?

The committee noted progress on DNA profiling of captive elephants as part of broader elephant conservation efforts discussed in the Environment Ministry meeting.



Energy Asia Conference

The Energy Asia conference is a biennial forum focused on advancing net-zero ambitions in the Asian energy sector. It brings together policymakers, investors, and industry experts from multiple countries and sectors to discuss energy security, renewable adoption, and infrastructure modernization. The event promotes collaboration on carbon capture, hydrogen technologies, and digital innovation in energy. The 2025 edition was held in Kuala Lumpur, attended by representatives from 38 industries and 60 countries. It emphasizes the need for balanced energy transitions, combining renewables with fossil fuel alternatives, and marks investment gaps and geopolitical challenges in Asia's energy landscape.

WHY IN NEWS?

Energy Asia 2025 convened in Kuala Lumpur from June 16-18, 2025, to address Asia's energy paradox, focusing on accelerating renewable energy adoption and infrastructure upgrades amid ongoing fossil fuel reliance.

Energy Intensity

Energy intensity refers to the amount of energy consumed per unit of economic output, typically measured as energy use per GDP. Lower energy intensity indicates greater energy efficiency in producing goods and services. India has made progress in reducing its energy intensity over the past decade by adopting cleaner technologies and improving energy regulations. This reduction helps in lowering greenhouse gas emissions and supports sustainable development goals. Energy intensity varies widely across countries depending on industrialization, energy sources, and economic structure, with developing economies often showing higher intensity due to less efficient infrastructure.

WHY IN NEWS?

India's improvement in lowering energy intensity was brought into light in the 2025 Energy Transition Index as a key factor contributing to its enhanced energy efficiency ranking.

Energy Transition Index

The **Energy Transition Index (ETI)** is an annual ranking developed by the World Economic Forum that measures countries' progress towards cleaner, more secure, and equitable energy systems. It evaluates 118 countries across **three dimensions** – energy security, sustainability, and equity, and five readiness factors – political commitment, finance and investment, innovation, infrastructure, and education/human capital. The ETI combines metrics like energy access, emissions, and investment capacity. Sweden topped the 2025 index, while Congo ranked lowest. The index marks disparities in global energy transitions and the influence of large economies like China, the US, and India in shaping future energy trends.

WHY IN NEWS?

The 2025 Energy Transition Index ranked India 71st, noting improvements in energy efficiency and investment capacity, while denoting global progress and challenges in



energy security, sustainability, and equity.

Eurasian Otter

The **Eurasian otter** (*Lutra lutra*) is a semi-aquatic mammal found across Europe and Asia. It is classified as **near threatened** by the IUCN due to habitat loss and pollution. Eurasian otters have dense, water-repellent fur and webbed feet, aiding in swimming. They primarily feed on fish, amphibians, and crustaceans. Otters mark their territory with spraints (feces) that contain chemicals used for communication. Historically, their fur was sought after, leading to hunting pressures. They are indicators of healthy aquatic ecosystems, as they require clean water and abundant prey for survival.

WHY IN NEWS?

A rare sighting of the Eurasian otter was reported in Kashmir after three decades, signaling possible ecological restoration in the regions aquatic habitats.

Faecal Sludge Treatment Plants at Kumbh Mela

Faecal Sludge Treatment Plants (FSTPs) are specialized facilities designed to process and treat human waste from temporary sanitation systems. At the 2025 Kumbh Mela, these plants processed approximately 1.5 million tonnes of waste, ensuring hygiene and environmental safety at the worlds largest human gathering. The Department of Atomic Energy deployed these FSTPs, which use advanced treatment technologies to convert sludge into non-hazardous byproducts. This large-scale waste management effort minimized pollution risks, supported public health, and demonstrated India's capability in managing sanitation for massive events.

WHY IN NEWS?

FSTPs were implemented during the 2025 Kumbh Mela to manage unprecedented sanitation challenges, showcasing Indias advancements in waste treatment technology and public health infrastructure.

Fishing and Aquaculture Sub-sector

The fishing and aquaculture sub-sector's contribution to Indias agricultural GVA rose from 4.2% in 2011-12 to 7.0% in 2023-24. Inland fish production share decreased from 57.7% to 50.2%, while marine fish increased from 42.3% to 49.8%. West Bengal and Andhra Pradesh are the two major contributing states. The sector includes freshwater fish farming, marine capture fisheries, and aquaculture of species like shrimp and prawns. Advances in breeding, feed technology, and disease management have boosted production. The sector is important for nutrition, employment, and export revenue.

WHY IN NEWS?

Fishing and aquaculture's share in agricultural GVA grew , with notable shifts in contributions from West Bengal and Andhra Pradesh between 2011-12 and 2023-24.

Floating Solar Photovoltaic Systems

Floating solar photovoltaic (FPV) systems are solar panels installed on bodies of water such as reservoirs, lakes, or ponds. FPV reduces land use conflicts and water evaporation while improving panel efficiency due to cooling effects from water. These systems can be



integrated with hydroelectric power plants to optimize energy generation. FPV technology has been adopted in various countries, including India, China, and Japan. Challenges include anchoring, corrosion resistance, and environmental impact on aquatic ecosystems. FPV is considered a promising solution for expanding solar capacity in densely populated or land-scarce regions.

WHY IN NEWS?

NTPCs clean energy strategy includes deploying floating solar photovoltaic systems as part of its efforts to increase renewable energy capacity and support India's net-zero emissions target.

Forest (Conservation) Act, 1980 (FCA)

The Forest (Conservation) Act, 1980, is an Indian legislation enacted to regulate the diversion of forest land for non-forest purposes. It mandates prior approval from the central government before forest land can be converted for other uses. The Act aims to conserve forests and protect ecological balance. Under the FCA, compensatory afforestation and Net Present Value (NPV) payments are often required for forest land diversion. However, in the 2025 Supreme Court ruling on Zudpi lands, exceptions were made where the Centre cannot impose compensatory afforestation or NPV levies for lands allotted before 1996.

WHY IN NEWS?

The Supreme Court's 2025 judgment reaffirmed that Zudpi lands fall under the FCA, clarifying conditions for their diversion and exempting certain pre-1996 allotments from compensatory afforestation and NPV levies.

Forest Advisory Committee (FAC)

The **Forest Advisory Committee (FAC)** is a statutory body under India's Ministry of Environment, Forest and Climate Change, responsible for approving the diversion of forest land for non-forest purposes. It reviews proposals involving forest land diversion, ensuring compliance with environmental laws and forest conservation. FAC includes experts from forestry, wildlife, and environmental fields, along with government officials. It aims to balance developmental needs with ecological protection. Decisions are based on scientific assessments, public consultations, and environmental impact studies. FAC's recommendations are crucial for projects involving forest land, such as hydroelectric projects, mining, and infrastructure development.

WHY IN NEWS?

FAC granted in-principle approval to the Etalin Hydropower Project and approved forest diversion for Tato-II Hydro Electric Project, reviving previously scrapped projects in Arunachal Pradesh's Dibang Valley.

Gangetic River Dolphin

The **Gangetic river dolphin** (*Platanista gangetica*) is a freshwater dolphin species native to the Ganges, Brahmaputra, and Meghna river systems in South Asia. It is classified as endangered due to habitat loss and pollution. The dolphin is blind and uses echolocation



to navigate and hunt in murky river waters. It is an indicator species for river health. The Kulsi River in Meghalaya is one of its nesting and habitat sites, denoting the ecological importance of the river system. Conservation efforts often involve habitat protection and pollution control.

WHY IN NEWS?

The Kulsi River, a key habitat for the Gangetic river dolphin, is central to the new hydropower project, raising ecological considerations in Assam-Meghalaya cooperation.

Glacial Lake Outburst Flood (GLOF)

A **Glacial Lake Outburst Flood (GLOF)** occurs when the dam containing a glacial lake fails, releasing large volumes of water rapidly downstream. These floods can cause catastrophic damage to infrastructure, ecosystems, and human settlements. GLOFs are often triggered by factors such as ice avalanches, earthquakes, or rapid melting due to climate change. The Himalayan region is particularly vulnerable due to its numerous glacial lakes formed by retreating glaciers. India's National Disaster Management Authority (NDMA) coordinates early warning systems and risk mapping for GLOFs to reduce disaster impacts and improve preparedness in high-risk areas.

WHY IN NEWS?

GLOF risk mapping and early warning systems were emphasized by India's Minister at the 2025 International Conference on Glaciers Preservation as part of disaster preparedness initiatives in the Himalayas.

Global Environment Facility (GEF)

The **Global Environment Facility (GEF)** is an international partnership of 184 countries, international institutions, civil society organizations, and the private sector that addresses global environmental issues. Established in 1991, it provides funding to projects related to biodiversity, climate change, international waters, land degradation, and chemicals. The GEF has allocated over \$21 billion and mobilized more than \$112 billion in co-financing for more than 5,000 projects worldwide. It operates through multiple implementing agencies, including UNDP, UNEP, and the World Bank. The GEF also supports capacity-building and technology transfer to developing countries to promote sustainable development.

WHY IN NEWS?

The GEF supports the electric vehicle integration in municipal waste collection systems in Indian cities under the Sustainable Cities Integrated Pilot Approach (SCIAP), contributing to emission reductions and clean energy use.

Global Mangrove Alliance

The **Global Mangrove Alliance**, launched in 2017, is a coalition of non-profits, governments, scientists, industry, local communities, and funders dedicated to conserving and restoring mangrove ecosystems worldwide. Mangroves sequester carbon at rates up to ten times faster than terrestrial forests, making them critical for climate mitigation and adaptation. The alliance develops best practice guides to help countries incorporate mangrove conservation into national climate plans, including NDCs. It supports



restoration projects and promotes sustainable management to enhance coastal resilience, biodiversity, and carbon storage, contributing to global climate goals.

WHY IN NEWS?

The Global Mangrove Alliance is involved in supporting countries participating in the Blue NDC Challenge to include ocean and coastal ecosystems like mangroves in their climate commitments.

Global Wind Day

Global Wind Day is celebrated annually on **15 June** to promote awareness of wind energy worldwide. It was initiated by the **Global Wind Energy Council (GWEC)** and **WindEurope** in 2007. The day features events, workshops, and educational activities in over 50 countries. It aims to encourage the use of wind power as a clean, renewable resource and to show technological advances and policy support. The celebration also encourages collaboration between governments, industry, and the public to accelerate wind energy adoption globally.

WHY IN NEWS?

Global Wind Day 2025 is being observed with a special event in Bengaluru to celebrate India reaching 50 GW of wind energy capacity by March 2025.

Great Indian Bustard Recovery Project

The Great Indian Bustard (*Ardeotis nigriceps*) is a critically endangered bird native to the Indian subcontinent, known for its large size and ground-dwelling habits. The recovery project aims to increase population through habitat restoration, predator control, and captive breeding. The species faces threats from habitat loss, hunting, and power line collisions. Project efforts include installing bird diverters on power lines and creating safe breeding habitats. The recovery initiative is partly funded by CAMPA and involves collaboration between wildlife authorities and local communities to prevent extinction of this flagship grassland species.

WHY IN NEWS?

CAMPA funds, which are also allocated for the Great Indian Bustard recovery project, are being redirected to new wildlife conflict management schemes including the pilot for tigers outside reserves.

Green Hydrogen

Green hydrogen is produced through the process of electrolysis, which uses renewable energy sources like solar or wind to split water into hydrogen and oxygen. It emits **zero carbon dioxide** during production, making it a key element in decarbonizing industries such as steel manufacturing, transportation, and power generation. Countries investing in green hydrogen aim to reduce reliance on fossil fuels and meet climate goals. Storage and transportation of hydrogen remain technical challenges due to its low energy density and high flammability. Green hydrogen is increasingly seen as a **strategic energy resource** in global clean energy transitions.

WHY IN NEWS?

India and Paraguay agreed to strengthen cooperation in clean energy sectors, including



green hydrogen, during President Santiago Peña Palacios' state visit to India in June 2025.

Green India Mission (GIM)

The Green India Mission was launched in February 2014 as part of India's National Action Plan on Climate Change. It aims to protect, restore, and enhance forest and tree cover on 10 million hectares of land by 2030. The mission focuses on both climate adaptation and mitigation, targeting an additional carbon sink of 2.5 to 3 billion tonnes of CO₂ equivalent. Restoration activities include afforestation of wastelands, open forest restoration, agroforestry, and plantations along transportation corridors. The mission adopts a micro-ecosystem approach to manage vulnerable landscapes such as the Aravallis, Western Ghats, mangroves, and the Indian Himalayan region.

WHY IN NEWS?

The Ministry of Environment released the revised Green India Mission document for 2021-2030, emphasizing restoration of vulnerable landscapes and increasing carbon sinks as part of India's climate commitments.

Green Voyage 2050

Green Voyage 2050 is an initiative aimed at reducing carbon emissions and promoting sustainability in the maritime sector. It focuses on developing and implementing clean energy technologies such as LNG, hydrogen, and electric propulsion for ships. The program encourages digital transformation, smart logistics, and green port infrastructure to minimize environmental impact. It aligns with global maritime decarbonization goals and supports collaboration between countries to share best practices. The initiative is part of India's broader Maritime India Vision 2030 and Maritime Amrit Kaal Vision 2047 strategies to modernize and green its shipping industry by 2050.

WHY IN NEWS?

India and Norway discussed deeper collaboration under Green Voyage 2050 to advance green maritime technologies and sustainable shipping practices during bilateral meetings in Oslo in June 2025.

Gulf of Mannar Marine National Park

The **Gulf of Mannar Marine National Park** is a protected area located along the southeastern coast of India, encompassing 21 uninhabited low-lying islands. It covers a 160 km stretch between Rameswaram and Thoothukudi. The park is one of the four major coral reef areas in India and includes diverse ecosystems such as coral reefs, seagrass beds, and sandy islands. It plays an important role in coastal protection by preventing erosion and supporting marine biodiversity. The park also sustains local fisheries by enhancing fish production. Coral mining was banned in 2005 to protect its fragile environment.

WHY IN NEWS?

The Tamil Nadu government has started restoring Kariyachalli island within the Gulf of Mannar Marine National Park, following the successful restoration of Vaan island, under the TNSHORE initiative.



Heat Action Plans

Heat action plans are government strategies designed to reduce heatwave impacts on vulnerable populations. They include short-term measures like providing water at public places, setting up cooling shelters, and regulating work schedules. Long-term actions involve urban greening, increasing water bodies, and mapping urban heat islands to guide city planning. The National Disaster Management Authority (NDMA) provides matrices for these plans, which vary by city and state. Chennai has incorporated urban heat island data into its master plan. These plans aim to protect workers, especially informal laborers, and reduce heat-related health risks.

WHY IN NEWS?

state of Indias and cities are implementing heat action plans to mitigate rising heatwave risks, following NDMA guidelines and localized strategies to protect workers and vulnerable populations.

INS Guldar

INS Guldar is a **decommissioned Indian Navy warship** weighing 1,120 tons. It was taken out of service in **January 2024**. The ship is being repurposed as an **underwater museum and artificial coral reef** near Nivati Rocks, Maharashtra. The vessel has undergone thorough environmental cleaning to remove hazardous materials before being scuttled. This conversion aims to promote marine conservation and tourism. INS Guldar was originally part of the Indian Navy's fleet, serving for several decades before retirement. The project marks a pioneering effort in India to combine heritage preservation with ecological restoration.

WHY IN NEWS?

INS Guldar is being transformed into Indias first underwater museum and artificial coral reef near Nivati Rocks, Maharashtra, to enhance marine conservation and tourism.

International Rice Research Institute (IRRI)

The International Rice Research Institute (IRRI), founded in **1960**, is headquartered in the Philippines and focuses on improving rice varieties globally. It pioneered the development of high-yielding rice strains during the Green Revolution. IRRI conducts research on pest resistance, seed quality, and sustainable rice farming practices. It collaborates with governments and institutions worldwide to increase rice productivity and food security. IRRI also manages a vast gene bank containing over **130,000 rice varieties**. The institute promotes environmentally friendly cultivation methods and addresses challenges like climate change and water scarcity in rice production.

WHY IN NEWS?

IRRI is partnering with Uttar Pradesh to establish a research center aimed at improving Kalanamak rice varieties and expanding export potential.

Intertropical Convergence Zone (ITCZ)

The **Intertropical Convergence Zone** is a belt of low pressure near the equator where trade winds from both hemispheres converge, causing frequent thunderstorms and heavy



rainfall. It plays important role in tropical climate and monsoon systems. The ITCZ shifts seasonally, influencing rainfall distribution in regions such as India, West Africa, and the Amazon. Changes in ocean circulation, such as an AMOC collapse, can shift the ITCZ southwards, weakening monsoons and disrupting precipitation patterns, leading to droughts or altered ecosystems in tropical zones.

WHY IN NEWS?

The 2025 study indicated that an AMOC shutdown could displace the ITCZ southwards, causing weakened monsoon systems and altered tropical rainfall, with impacts on agriculture and water resources in affected regions.

Jadung Valley

Jadung Valley is a remote high-altitude valley located within the Gangotri National Park in Uttarakhand. It lies near the border with China and is part of a fragile Himalayan ecosystem. The valley is known for its rugged terrain and alpine meadows, supporting rare wildlife such as Himalayan brown bears, snow leopards, bharal (blue sheep), and red foxes. Due to its inaccessibility, scientific studies and wildlife observations are limited. The valley plays important role in the habitat range expansion of several species and acts as a corridor for wildlife movement between Nelang and Bhairon Ghati regions.

WHY IN NEWS?

The recent rare sighting of a Himalayan brown bear family in Jadung Valley marks the first observation in this area, indicating an expansion of the species' range within Gangotri National Park.

Joshimath Sinking

Joshimath is a pilgrimage and military town in Uttarakhand undergoing severe land subsidence and structural damage. The sinking results from excessive construction, including roads and multi-story buildings, on geologically unstable slopes. Cracks have appeared in homes, temples, and shops, with fissures filled temporarily by concrete. The towns sinking is linked to unregulated slope cutting, hydropower projects, and rapid urbanization without proper engineering safeguards. Residents face displacement challenges due to economic and emotional ties. Joshimaths crisis exemplifies the consequences of ignoring Himalayan geological fragility and marks the urgent need for sustainable development and disaster risk management.

WHY IN NEWS?

Joshimaths ongoing land subsidence and structural failures have become a critical environmental and social crisis, with residents trapped amid escalating risks and inadequate government response.

Jute Diversified Products (JDPs)

Jute Diversified Products (JDPs) refer to innovative goods made from jute beyond traditional sacks and bags, including home décor, fashion accessories, geotextiles, and composites. JDPs aim to increase the value addition in the jute sector and expand market opportunities. The development of JDPs involves research on product design, quality



improvement, and market linkages. Jute is a natural fiber known for its biodegradability and sustainability, making JDPs attractive in eco-friendly markets. Efforts to boost JDPs include technology upgradation, skill development, and branding initiatives.

WHY IN NEWS?

JDPs were brought into light in the June 2025 meeting as a focus area for enhancing the productivity and export potential of natural fibers like jute.

Kachchh Unt Ucherak Maldhari Sangathan (KUUMS)

The Kachchh Unt Ucherak Maldhari Sangathan (KUUMS) is a community-based organization representing Maldhari pastoralists in the Kachchh district of Gujarat. The Maldharis are traditional camel herders and salt farmers who have coexisted with the regions mangrove ecosystem for generations. KUUMS advocates for the protection of the Kharai camel and its habitat, denoting the ecological and cultural importance of mangroves and tidal creeks. The organization actively monitors environmental violations, including illegal salt pan expansion and creek obstruction, and engages with government authorities and courts to ensure enforcement of environmental laws.

WHY IN NEWS?

KUUMS is leading efforts to challenge illegal salt leases and environmental degradation in Kachchh, pressing the National Green Tribunal for habitat restoration and protection of the Kharai camels grazing grounds.

Kali Tiger Reserve (KTR)

The **Kali Tiger Reserve** is located in the Western Ghats of Karnataka, spanning over 1,300 square kilometers. It is named after the Kali River that flows through the reserve. The reserve is known for its rich biodiversity, including tigers, elephants, and numerous endemic species. It was declared a tiger reserve in 2012 under Project Tiger. The area includes dense evergreen and semi-evergreen forests. The reserve is part of the Nilgiri Biosphere Reserve and plays a critical role in tiger conservation. The reserve has a designated core zone and buffer zone for wildlife protection and regulated human activity.

WHY IN NEWS?

Kali Tiger Reserve is in the news due to controversy over unauthorized wildlife safari tourism, which conservationists allege violates NTCA guidelines and threatens tiger habitats.

Kanha Tiger Reserve

Kanha Tiger Reserve, located in Madhya Pradesh, covers approximately **940 sq. km** of protected forest and grassland. It is part of the larger Kanha National Park, established in 1955, and is known for its diverse ecosystems supporting tigers, leopards, and various ungulates. Kanha is famous for its **hardwood forests** and the rare Barasingha deer, which was successfully reintroduced here. The reserve's management focuses on habitat restoration and anti-poaching measures. It is one of the first nine tiger reserves created under Project Tiger in 1973, playing a key role in tiger conservation.

WHY IN NEWS?

Kanha Tiger Reserve has emerged as the leading tiger habitat in India by ungulate



population and biomass, according to a recent Wildlife Institute of India report.

Kariyachalli Island

Kariyachalli island is part of the Thoothukudi group in the Gulf of Mannar and is located approximately 4 km south of Sippikulam and 20 km northeast of Thoothukudi old harbour. The island has experienced severe shrinkage, from 20.85 hectares in 1969 to just 3.14 hectares at high tide in 2025. It features beaches, sand dunes, spits, and sandy plains. The erosion is mainly due to coral mining and lack of sediment replenishment. Restoration efforts include deploying 8,500 artificial reef modules to stabilize the island and revive coral reefs and seagrass beds.

WHY IN NEWS?

Kariyachalli islands restoration project has been launched to combat its drastic shrinkage and ecological degradation, involving local communities and scientific institutions.

Kunming-Montreal Global Biodiversity Framework

The **Kunming-Montreal Global Biodiversity Framework** is an international agreement adopted in 2022 under the Convention on Biological Diversity. It sets ambitious targets to halt and reverse biodiversity loss by 2030, including goals for habitat protection, sustainable use of natural resources, and restoration of degraded ecosystems. The framework emphasizes the integration of biodiversity considerations into economic and development policies. It supports transparency and accountability through measurable indicators and reporting mechanisms. The agreement follows the 2010 Aichi Biodiversity Targets and aims to mobilize financial resources and partnerships for effective global biodiversity conservation.

WHY IN NEWS?

The framework is referenced as a key target-setting tool supported by biodiversity data investments from the IBAT Alliance to measure progress and guide conservation actions globally.

Malabar Pied Hornbill

The Malabar Pied Hornbill (*Anthracoceros coronatus*) is a large bird native to the Indian subcontinent's forests. It measures about **65-75 cm** in length and is known for its distinctive black and white plumage and prominent casque on its beak. This species is a frugivore, playing a key role in seed dispersal. It nests in tree cavities, often relying on large, mature trees. The Malabar Pied Hornbill is sensitive to habitat loss and fragmentation. The Kumram Bheem Conservation Reserve is the only known nesting site for this species in the region, denoting its conservation importance.

WHY IN NEWS?

The Malabar Pied Hornbill's presence and nesting within the Kumram Bheem Conservation Reserve emphasize the reserve's role in protecting rare and ecologically important bird species.

Male Mahadeshwara Wildlife Sanctuary

The **Male Mahadeshwara Wildlife Sanctuary** is located in Karnataka's Chamarajanagar



district, covering over 500 square kilometers. It is named after the Male Mahadeshwara Hills, a region known for its rich biodiversity, including **tigers, elephants, and various endemic plant species**. The sanctuary forms part of the Nilgiri Biosphere Reserve and plays important role in connecting wildlife corridors between Karnataka and Tamil Nadu. It is a **critical habitat for the conservation of the Bengal tiger** and supports tribal communities living in and around the forest area. The sanctuary is also noted for its cultural significance tied to local legends and temples.

WHY IN NEWS?

A tigress and her four cubs were found dead in this sanctuary, raising concerns about possible poisoning and triggering a high-level investigation by Karnataka forest authorities.

Manas-Sankosh-Teesta-Ganga Link

The **Manas-Sankosh-Teesta-Ganga Link** is a proposed river interlinking project by India's National Water Development Authority. It plans to connect the Manas River (a Brahmaputra tributary) to the Ganga River via the Sankosh and Teesta rivers. This project aims to transfer surplus water from the Brahmaputra basin to water-scarce regions in India. It is designed to enhance water availability and support irrigation and hydropower generation. The link is part of a broader strategy to optimize river basin water resources across India and mitigate regional water stress.

WHY IN NEWS?

The project is relevant in the context of Brahmaputra water management and concerns about upstream Chinese interventions potentially affecting water availability downstream in India.

Marine Genetic Resources (MGR)

Marine Genetic Resources (MGR) are genetic materials obtained from marine organisms including plants, animals, and microbes found in oceans, especially in areas beyond national jurisdiction. These resources are valuable for biotechnology, medicine, and pharmaceuticals, providing compounds for drug development and industrial applications. MGR benefit-sharing is a core component of the BBNJ treaty, ensuring equitable distribution of profits derived from their use. The regulation of MGR extraction and commercialization is complex due to the high seas' international status. MGR also contribute to scientific research on biodiversity and climate change resilience, making them crucial for sustainable ocean management.

WHY IN NEWS?

The BBNJ treaty ratifications include provisions for equitable sharing of profits from Marine Genetic Resources, denoting their importance in global marine biodiversity governance discussed at UNOC 3.

Marine Protection Atlas

The Marine Protection Atlas is a global database that maps Marine Protected Areas (MPAs) worldwide. It tracks the extent, status, and management effectiveness of MPAs, showing



that over 8% of the ocean is designated as protected, but only about 3% are effectively managed. The atlas helps policymakers and researchers identify gaps in marine conservation and supports efforts to meet international biodiversity targets. It integrates data from multiple sources, including governments and NGOs, to provide an up-to-date, comprehensive view of ocean protection efforts. The atlas is a critical tool for monitoring progress toward goals like the Kunming-Montreal 30×30 target.

WHY IN NEWS?

The Marine Protection Atlas data brought into light that only 23% of sea turtle hotspots lie within MPAs, raising concerns about current marine conservation effectiveness.

Mawmluh Sacred Groves

Sacred groves in Mawmluh village, East Khasi Hills, Meghalaya, are traditional forest patches protected by local communities where no tree, twig, or leaf may be removed. These groves serve as biodiversity hotspots and cultural heritage sites, preserving native flora and fauna. Despite pressures from limestone mining and industrial activity, these groves maintain ecological balance and support species like *Calotes zolaiking*. The groves are managed through customary laws enforced by village councils and headmen, playing a critical role in local conservation efforts.

WHY IN NEWS?

The recent discovery of *Calotes zolaiking* near Mawmluh has revitalized conservation efforts in the region, emphasizing the importance of sacred groves amid environmental threats.

Microplastics

Microplastics are plastic particles smaller than 5 millimeters, originating from the breakdown of larger plastic waste or microbeads in products. They are found in oceans, freshwater, soil, and air globally, including remote areas such as mountain peaks and deep ocean trenches. Microplastics enter the food chain through ingestion by marine and terrestrial organisms, accumulating in fish and shellfish consumed by humans. Studies have detected microplastics in human organs and blood. These particles can carry toxic chemicals and pathogens. Their environmental persistence and widespread distribution make them component of plastic pollution, posing risks to ecosystems and human health.

WHY IN NEWS?

Microplastics are a central concern of the 2025 World Environment Day theme Beat Plastic Pollution, denoting their pervasive environmental and health impacts.

Monsoon Reservoir Levels

Monsoon reservoir levels refer to the water storage status in dams and reservoirs during and after the monsoon season. Adequate reservoir levels ensure sufficient water supply for agriculture, drinking, and hydroelectric power generation. They influence agricultural productivity and food prices by supporting irrigation during dry spells. Reservoir levels fluctuate based on monsoon rainfall intensity and distribution. India's monsoon season, typically from June to September, is critical for replenishing reservoirs. Monitoring



reservoir levels helps predict agricultural output and manage water resources efficiently.

WHY IN NEWS?

Adequate reservoir levels following an above-normal monsoon are expected to help keep food prices in check, contributing to easing inflation pressures in India in 2025.

Nairobi Convention on Removal of Wrecks

The Nairobi International Convention on the Removal of Wrecks (2007) requires ship owners to remove wrecks that pose hazards to navigation or the environment within a coastal state's territorial waters, extending up to 200 nautical miles. It establishes liability and compensation mechanisms for wreck removal costs. India is a signatory, making ship owners responsible for salvage or damage claims if wrecks occur within its Exclusive Economic Zone (EEZ). The convention aims to enhance maritime safety and environmental protection by ensuring timely removal of dangerous wrecks and preventing long-term hazards to shipping and coastal ecosystems.

WHY IN NEWS?

The sunken MSC ELSA 3 off Kerala's coast falls under this convention, making the ship owner liable for salvage and environmental damage claims within India's waters.

Nalsarovar Wildlife Sanctuary

Nalsarovar Wildlife Sanctuary, located about 80 km from Ahmedabad, Gujarat, is one of India's largest wetland sanctuaries and a designated Ramsar site. It supports a rich diversity of bird species, including migratory flamingos, pelicans, ducks, and herons. The sanctuary features extensive shallow lakes and marshes, providing critical habitat for both resident and migratory waterbirds. It plays an important role in conserving wetland ecosystems in western India and serves as a key stopover for migratory birds traveling along the Central Asian Flyway. The sanctuary is managed by the Gujarat Forest Department.

WHY IN NEWS?

Nalsarovar Wildlife Sanctuary was the location where the rare Sabine's Gull was observed in June 2025, an unusual sighting for India.

Nanda Devi Biosphere Reserve

The Nanda Devi Biosphere Reserve, established in 1988, is a protected area in Uttarakhand encompassing the Nanda Devi National Park and the Valley of Flowers National Park. It covers over 5,200 square kilometers and is part of the UNESCO World Network of Biosphere Reserves. The reserve hosts diverse ecosystems ranging from alpine meadows to dense forests and is home to rare and endangered species like the snow leopard, Himalayan musk deer, and the blue sheep. It plays an important role in watershed management for the Ganges River basin. Human activity is strictly regulated to preserve its fragile environment.

WHY IN NEWS?

The Valley of Flowers, part of the Nanda Devi Biosphere Reserve, reopened to tourists for the 2025 season, denoting conservation and tourism balance efforts.



Nanoplastics

Nanoplastics are plastic particles smaller than 100 nanometers, often invisible to the naked eye. They originate from the breakdown of larger plastic debris or are manufactured at this size for industrial uses. Nanoplastics have been detected in extreme environments, including mountain peaks and ocean trenches, as well as inside human tissues and newborns. Their small size allows them to penetrate cells and cross biological barriers, causing cellular damage and genetic mutations. Nanoplastics can carry surface charges, influencing their interaction with microorganisms and increasing toxicity. They contribute to environmental pollution and pose emerging health risks due to their bioaccumulation and persistence.

WHY IN NEWS?

Research from the University of Illinois revealed that positively charged nanoplastics increase the virulence of *E. coli* bacteria by enhancing toxin production and stress responses.

Narmada River Basin Afforestation

Afforestation along the **Narmada River basin** involves planting trees to increase forest cover, reduce soil erosion, and revive river ecosystems. The Narmada basin spans central India and is crucial for water supply, agriculture, and biodiversity. Increasing forest cover helps stabilize rainfall patterns, improve groundwater recharge, and prevent sedimentation in reservoirs. This ecological measure supports flood mitigation and environmental restoration. The initiative aims to create a model that can be replicated in other river basins across India to address climate change impacts and enhance ecological resilience.

WHY IN NEWS?

The Union Home Minister emphasized increasing forest cover in the Narmada basin as a flood mitigation strategy during the 2025 monsoon preparedness meeting.

National Bioenergy Programme Phase-I

The **National Bioenergy Programme Phase-I** is an initiative by India's Ministry of New and Renewable Energy (MNRE) aimed at promoting bioenergy technologies from FY 2021–22 to 2025–26. It focuses on biomass utilization to generate cleaner energy and reduce pollution. The programme supports briquette and pellet manufacturing plants, easing documentation and contract requirements. It emphasizes performance-based subsidies, requiring plants to operate at least 80% of rated capacity for full financial assistance. The scheme integrates digital monitoring tools like IoT for cost-effective oversight and targets better stubble management to reduce air pollution from crop residue burning.

WHY IN NEWS?

The MNRE revised the guidelines for Phase-I of the National Bioenergy Programme to simplify processes, promote MSMEs, and enhance biomass technology adoption, supporting India's net-zero emissions goal by 2070.



National Cancer Registry Programme (NCRP)

The **National Cancer Registry Programme (NCRP)** was established by the Indian Council of Medical Research (ICMR) in 1982 to systematically collect data on cancer incidence, mortality, and survival across India. It operates through population-based and hospital-based cancer registries. The NCRP provides critical epidemiological data that informs cancer control policies and research. It has revealed rising cancer trends, including lung cancer in non-smokers. The programme's data is used to project future cancer burdens, such as the increase from 14.6 lakh cases in 2022 to 15.7 lakh in 2025. It also marks regional variations and cancer patterns in India.

WHY IN NEWS?

The NCRPs projections on rising cancer cases in India, especially lung cancer among non-smokers, underline the growing health challenge linked with air pollution and other risk factors.

National Compensatory Afforestation Fund Management and Planning Authority (CAMPA)

CAMPA is a statutory body under the Indian Environment Ministry responsible for managing funds collected as compensation for forest land diverted to non-forest uses. It allocates resources for afforestation, forest conservation, and wildlife protection projects. CAMPA funds have supported initiatives like the Great Indian Bustard recovery and Project Cheetah. The executive committee oversees fund disbursement and project approvals. CAMPAs role extends to balancing development and environmental conservation by ensuring that forest loss is compensated through ecological restoration. It operates under strict government guidelines to maintain transparency and efficiency in fund utilization.

WHY IN NEWS?

CAMPAs executive committee recently approved a pilot scheme funding for managing human-tiger conflicts outside tiger reserves across 80 forest divisions in 10 states.

National Disaster Mitigation Fund

The **National Disaster Mitigation Fund (NDMF)** was established following recommendations by the 15th Finance Commission of India to support disaster risk reduction and resilience building. It has a budget allocation of **Rs 13,693 crore for FY22 to FY26**. The fund is divided into four windows – **10% for remote sensing and community engagement, 20% for mitigation, and 30% for recovery and reconstruction**. It enables rapid response and resilient recovery from disasters like landslides, floods, and earthquakes by financing mitigation projects and capacity building at national and state levels.

WHY IN NEWS?

The NDMA is incorporating the 3Ms strategy into disaster management, supported by allocations from the National Disaster Mitigation Fund for enhanced landslide mitigation efforts.



National Mission for Sustaining the Himalayan Ecosystem (NMSHE)

The **National Mission for Sustaining the Himalayan Ecosystem (NMSHE)** is a key initiative under India's National Action Plan on Climate Change (NAPCC), launched in 2010. It focuses on conserving the Himalayan biodiversity, enhancing ecological services, and promoting sustainable livelihoods. The mission supports scientific research, monitoring of glaciers, and climate adaptation strategies specific to the fragile Himalayan region. NMSHE collaborates with multiple national institutions and uses advanced technologies like Remote Sensing and GIS for data collection. It also emphasizes disaster risk reduction, particularly relating to Glacial Lake Outburst Floods (GLOFs), to protect vulnerable mountain communities.

WHY IN NEWS?

NMSHE was brought into light during the High-Level International Conference on Glaciers Preservation in Dushanbe, where India outlined ongoing efforts to monitor and protect the Himalayan ecosystem amid accelerating glacial retreat.

Natural Farming in India

Natural farming in India refers to agricultural practices that avoid synthetic fertilizers and pesticides, relying on organic inputs and ecological balance. It reduces costs by minimizing external inputs and promotes soil health and biodiversity. The government targets **7.5 lakh hectares** for natural farming expansion in 2025, with **18 lakh farmers** expressing interest. Natural farming methods include mulching, crop rotation, and use of indigenous microorganisms. It is seen as a sustainable alternative to conventional farming, improving resilience against climate change and enhancing product quality without yield loss. The approach is gaining momentum through government schemes and grassroots adoption.

WHY IN NEWS?

The Agriculture Minister announced ambitious targets for natural farming during the campaign, reflecting increased farmer participation and cost-effective benefits reported by practitioners.

Neeti Valley

Neeti Valley lies along the India-China border in Uttarakhand and is notable for its strategic geopolitical significance and fragile ecology. The valley is characterized by steep slopes, unstable geology, and limited infrastructure. Traditional livelihoods depend on subsistence agriculture and pastoralism. The area faces serious environmental threats from unregulated road construction, slope cutting, and dumping of muck into rivers. These activities increase landslide risk and endanger local communities and Indian armed forces stationed in the sensitive frontier zone. The valley remains underdeveloped, with scarce healthcare and education facilities, contributing to youth outmigration and economic vulnerability.

WHY IN NEWS?

Recent unregulated infrastructure projects in Neeti Valley have raised alarms over



ecological damage and risks to both residents and military personnel along the sensitive India-China border.

Nipah Virus Antibody Survey in Bats

A survey conducted by NIV found that **20% of bats** across nine state of Indias and one Union Territory carry antibodies against the Nipah virus, indicating prior exposure. Fruit bats of the Pteropus genus are the natural reservoir for the virus. The presence of antibodies suggests widespread viral circulation in bat populations, posing a continuous spillover risk to humans. This seroprevalence data helps identify hotspots for surveillance and informs public health strategies to prevent outbreaks. Bats' migratory patterns contribute to the virus's geographic spread across regions.

WHY IN NEWS?

Antibody surveys reveal Nipah virus exposure in bats across multiple state of Indias, denoting ongoing zoonotic risk and the need for monitoring.

Nivati Rocks

Nivati Rocks is a coastal marine area located off the coast of **Vengurla in Sindhudurg district, Maharashtra**. It is known for its rich biodiversity and coral formations. The site has been selected for the installation of Indias first underwater museum and artificial coral reef, utilizing the decommissioned INS Guldar warship. The regions ecological conditions are favorable for coral reef growth, making it an ideal location for marine conservation efforts. Nivati Rocks is relatively lesser-known compared to other coastal sites in Maharashtra but holds potential for diving and underwater tourism development.

WHY IN NEWS?

Nivati Rocks is the chosen site near Vengurla for the placement of the INS Guldar underwater museum and artificial coral reef project.

North East Space Application Centre (NESAC)

The North East Space Application Centre (NESAC) is a regional organization established in 2000 under the Department of Space, Government of India. It provides satellite-based remote sensing, GIS, and space technology applications for the eight northeastern states. NESAC supports disaster management, natural resource management, and urban planning. It plays important role in flood mapping and environmental monitoring in this flood-prone region. NESAC uses advanced satellite imaging and geospatial technology to assist government agencies in decision-making and development projects.

WHY IN NEWS?

NESAC will conduct satellite mapping of flood-affected areas in Guwahati and adjoining regions to help formulate solutions for urban flooding jointly by Assam and Meghalaya governments.

Oarfish

Oarfish are elongated, ribbon-like deep-sea fish living between **200 and 1,000 meters** depth. They can grow over 30 feet (9 meters), making them the longest bony fish. Oarfish primarily feed on plankton and crustaceans. Despite the nickname "doomsday fish," they



are harmless to humans. They surface rarely, usually when sick, dying, or breeding. Their appearance near the surface has been culturally linked to natural disaster warnings, especially in Japan. Oarfish have no swim bladder and use undulating dorsal fins for movement. They are poorly studied due to their deep-sea habitat and elusive nature.

WHY IN NEWS?

An oarfish was recently spotted off the coast of Tamil Nadu, after sightings in Mexico, New Zealand, and Australia, attracting attention due to its rarity and cultural significance as a “doomsday” fish.

One Health Framework

The One Health framework is an integrated approach recognizing the interconnectedness of human, animal, and environmental health. It promotes collaborative efforts across multiple disciplines to prevent and control zoonotic diseases, improve food safety, and enhance ecosystem health. The approach is endorsed by international bodies such as WHO, FAO, and WOAHA to address emerging infectious diseases, antimicrobial resistance, and biosecurity threats. One Health emphasizes early detection, coordinated response, and sustainable disease management practices, involving veterinarians, medical professionals, ecologists, and policymakers globally.

WHY IN NEWS?

The recognition of ICAR-NIHSAD as a Category A RHF marks India's role in the One Health framework by safeguarding global animal health and biosecurity.

Panchamrit Strategy

The **Panchamrit strategy** was introduced by India at COP26 as a comprehensive climate action plan targeting 2030 and 2070 goals. It aims to install **500 GW of non-fossil energy capacity**, source **50% of energy from renewables**, reduce carbon emissions by **1 billion tonnes**, cut carbon intensity by **45%**, and achieve net-zero emissions by 2070. The strategy integrates regulatory mechanisms like a carbon market framework, GHG Emission Intensity Target Rules for high-emission sectors, and a Climate Finance Taxonomy to promote sustainable investments across nine national missions. It represents a key policy framework guiding India's climate commitments.

WHY IN NEWS?

The Panchamrit strategy is central to India's climate goals discussed amid rising emissions and sustainability challenges, forming the basis for new regulations and corporate climate actions brought into light in 2025 reports.

Panna Tiger Reserve

The **Panna Tiger Reserve** is located in Madhya Pradesh, covering a core area of 542.66 sq km and a buffer area of 1002.42 sq km. It is one of the few tiger reserves in India with a history of tiger extinction and successful reintroduction. The reserve has the lowest prey density in Madhya Pradesh, with only about six herbivores per sq km, far below the ideal 30-60 per sq km. It is part of the larger Vindhya mountain range and is known for its diverse flora and fauna, including tigers, leopards, and several bird species. The reserve



also faces threats from development projects like the Ken-Betwa river linking.

WHY IN NEWS?

The Ken-Betwa river linking project is impacting Panna Tiger Reserve by submerging over 10% of its core area and causing wildlife displacement, raising concerns among forest officials and conservationists.

PM2.5 Pollution

PM2.5 refers to **particulate matter with a diameter of 2.5 micrometers or less**. These fine particles can penetrate deep into the lungs and bloodstream, causing respiratory and cardiovascular diseases. Major sources include vehicle emissions, industrial processes, and combustion of fossil fuels. PM2.5 pollution is linked to increased mortality, reduced lung function, and adverse pregnancy outcomes like premature birth. It affects protein digestion and aromatic amino acid metabolism, disrupting biological pathways essential for fetal growth. Regulatory standards for PM2.5 vary globally, with ongoing research into its molecular impact on human health.

WHY IN NEWS?

The study linked PM2.5 exposure in urban Atlanta neighborhoods to increased premature births, identifying biochemical pathways affected by these fine particles.

Podocarp Wood

Podocarps are an ancient group of conifers mostly found in the Southern Hemisphere. Their wood is dense, fine-grained, and resistant to decay. Podocarps produce distinctive growth rings that can reveal past climate conditions, such as cool summers. They dominate modern cool temperate rainforests in Patagonia and New Zealand. Podocarp pollen is abundant in fossil peat deposits, helping date ancient forests. The woods cell structure is used in electron microscopy to identify species and environmental conditions. Podocarps have survived since the Mesozoic era and are key to understanding long-term forest ecology and climate shifts.

WHY IN NEWS?

Podocarp wood fragments discovered in the Falkland Islands peat deposit show well-preserved cell walls, linking ancient forests to modern Patagonian rainforests.

Polavaram Irrigation Project

The **Polavaram Irrigation Project** is a multipurpose dam project on the Godavari River in Andhra Pradesh designed to provide irrigation, hydroelectric power, and drinking water. It aims to divert about 80 tmc ft of water to the Krishna Delta for agricultural use. The project has faced legal and environmental scrutiny, including disputes over water allocation between Andhra Pradesh and Telangana. Modifications to the project require Terms of Reference (ToR) approval from the Ministry of Environment, Forest and Climate Change. The projects implementation involves multiple river basins, complicating interstate water-sharing agreements.

WHY IN NEWS?

Telanganas Irrigation Minister urged rejection of Andhra Pradeshs request for ToR for the modified Polavaram project, citing unauthorized alterations and potential violations of



water-sharing laws.

Polluter Pays Principle

The **Polluter Pays Principle** is an environmental policy concept that requires those who produce pollution to bear the costs of managing it to prevent damage to human health or the environment. It is a foundational element in international environmental agreements and is emphasized in the Nice Wake-Up Call as a basis for financing the Global Plastics Treaty. This principle incentivizes reducing pollution at the source and ensures financial responsibility is assigned fairly. Its application varies by country and sector but is increasingly integrated into global treaties addressing plastic pollution, climate change, and biodiversity loss.

WHY IN NEWS?

The Polluter Pays Principle is a key component of the financial mechanisms proposed in the Nice Wake-Up Call to fund effective implementation of the Global Plastics Treaty being negotiated in 2025.

Polymeric Beads

Polymeric beads are small plastic granules used as raw materials in manufacturing plastic products. They are often shipped in bulk containers and are environmentally hazardous if spilled in marine ecosystems. These beads can absorb toxins and are ingested by marine organisms, causing bioaccumulation and harm up the food chain. During the Wan Hai 503 fire, containers carrying polymeric beads were compromised, increasing the risk of these microplastics entering the sea. The beads' persistence in the environment contributes to long-term pollution and affects juvenile fish during breeding seasons, potentially impacting fisheries and human food safety.

WHY IN NEWS?

Polymeric beads were among the hazardous cargo on Wan Hai 503, raising environmental concerns after the fire and container spills off Kerala in June 2025.

Portulaca bharat

Portulaca bharat is a newly identified succulent plant species endemic to the Aravali hills near Jaipur. It features **opposite, slightly concave leaves** and **pale-yellow flowers** that turn creamish-white near the apex. The plant has **glandular hairs on its stamen filaments** and **thick roots**, adapted to its rocky, semi-arid habitat. Only **10 individuals** have been found in the wild, leading to a provisional IUCN status of **data deficient**. It was first discovered near the historic Galtaji temple and cultivated ex situ in Himachal Pradesh and Lucknow for further study.

WHY IN NEWS?

Portulaca bharat was recently discovered and described as a new species, denoting the hidden biodiversity of the Aravali hills and emphasizing the need for conservation in this underexplored region.

Pretilachlor

Pretilachlor is a selective herbicide primarily used in **rice and paddy cultivation** to control



grasses and broadleaf weeds. It belongs to the chloroacetamide chemical family and works by inhibiting cell division in weed seedlings. Pretilachlor is applied pre-emergence or early post-emergence and is absorbed mainly through shoots and roots. It degrades in soil through microbial activity, with a half-life ranging from 10 to 30 days depending on conditions. It is classified as moderately toxic to aquatic life and requires careful handling to avoid environmental contamination. China is one of the major producers and exporters of Pretilachlor globally.

WHY IN NEWS?

India imposed a five-year anti-dumping duty on Pretilachlor imports from China after finding that cheap imports harmed the domestic herbicide industry.

Project Elephant

Project Elephant is a centrally sponsored scheme launched in 1992 by the Government of India to protect elephants, their habitats, and corridors. It focuses on mitigating human-elephant conflicts, preventing elephant deaths, and promoting scientific management of elephant populations. The project involves population estimation, habitat improvement, and community participation. It operates through a steering committee chaired by the Environment Minister. The scheme covers elephant range states, especially in Northeastern and Southern India. It has facilitated the identification of sensitive railway stretches to reduce elephant mortalities due to train collisions. The project also supports genetic profiling of captive elephants for conservation and management purposes.

WHY IN NEWS?

The Union Environment Ministry reviewed Project Elephants initiatives, including Phase-I of synchronized elephant population estimation in Northeastern states and mitigation plans for elephant deaths on railways.

Ramsar Convention

The Ramsar Convention is an international treaty established in 1971 for the conservation and sustainable use of wetlands. Headquartered in Gland, Switzerland, it provides a framework for national action and international cooperation. Contracting parties identify wetlands of international importance, adding them to the Ramsar List to ensure protection and wise use. The convention promotes ecosystem services such as water purification, flood control, and biodiversity conservation. India has the largest number of Ramsar sites in Asia. The treaty encourages public participation and integrates wetland conservation into national environmental policies.

WHY IN NEWS?

The Union environment ministry announced two new Ramsar sites in Rajasthan in June 2025, reflecting India's growing engagement with the Ramsar Convention.

Red List Index

The **Red List Index (RLI)** measures changes in the overall extinction risk of species globally, based on assessments by the International Union for Conservation of Nature (IUCN). It aggregates data on threatened species across various taxonomic groups,



tracking trends over time. An RLI value of 1 indicates no species are threatened, while 0 means all are extinct. The index helps monitor biodiversity loss and informs conservation priorities. It covers mammals, birds, amphibians, corals, and cycads among others. The RLI is a key indicator under **SDG 15 (Life on Land)** for assessing progress in halting biodiversity loss.

WHY IN NEWS?

The 2025 Sustainable Development Report marks the Red List Index as one of the targets showing reversals in progress since 2015, indicating worsening biodiversity loss globally.

Renewable Energy Cluster Programme

The Renewable Energy Cluster Programme is a government initiative to promote concentrated zones of renewable energy projects, particularly wind and solar, to enhance efficiency and reduce costs. By grouping projects within clusters, the program facilitates better infrastructure sharing, grid integration, and regulatory support. Karnataka plans over 5 GW of wind power capacity under this program. Clusters help in streamlining land acquisition, environmental clearances, and grid connectivity, accelerating project implementation. This model also attracts investors by offering predictable development conditions and economies of scale, contributing to India's target of 500 GW renewable energy by 2030.

WHY IN NEWS?

Karnataka announced plans to develop over 5 GW of wind power projects under the Renewable Energy Cluster Programme as part of its strategy to expand clean energy capacity.

Sabines Gull

Sabines Gull (*Larus richardsonii*) is a small Arctic seabird distinguished by its **tri-colored wings** in black, white, and grey, and a **forked tail**. It has a unique **black bill tipped with yellow**, a feature shared by only one other gull species. It breeds in high-latitude Arctic regions of North America, Greenland, and Siberia, nesting near wet tundra. The species migrates to **tropical upwelling zones** off South America and western Africa during winter. It rarely appears in the Indian subcontinent, making sightings extremely uncommon. It feeds mainly on small fish and marine invertebrates.

WHY IN NEWS?

Sabines Gull was spotted at Nalsarovar Wildlife Sanctuary in Gujarat, marking its first recorded sighting in India since 2013, a rare event for this Arctic migrant.

SAHAV Portal

The **SAHAV portal** is a GIS-based decision support system developed by India's Ministry of Earth Sciences. It integrates spatial data to aid in coastal management, disaster response, and marine resource planning. Recognized as a **Digital Public Good**, it supports sustainable ocean governance by providing real-time data on coastal erosion, biodiversity, and fisheries. The portal enhances decision-making for local and national authorities, helping monitor marine ecosystems and human activities. It was launched to coincide with



International Ocean Day and has become a critical tool for India's Blue Economy initiatives, especially in vulnerable coastal areas like Puducherry and Lakshadweep.

WHY IN NEWS?

The SAHAV portal was brought into light during the Monaco Marine Conference by Union Minister Dr Jitendra Singh as a key achievement in India's marine research and coastal management efforts.

Salkhan Fossil Park

Salkhan Fossil Park is located in Salkhan village, Sonbhadra district, Uttar Pradesh, covering 25 hectares in the Kaimur Range. It contains fossils dating back up to **1.4 billion years**, primarily from the Mesoproterozoic era. The park is notable for its **stromatolites**, which are layered sedimentary structures formed by ancient cyanobacteria. These stromatolites are among the oldest known evidence of life on Earth, predating many other famous fossil sites worldwide. The park officially opened in 2002 and has since become an eco-tourism hub with government funding for visitor amenities and scientific research partnerships.

WHY IN NEWS?

Salkhan Fossil Park was added to UNESCO's Tentative List for World Heritage Sites in June 2025, marking a major step for international recognition of its geological significance.

Sariska Tiger Reserve Critical Tiger Habitat (CTH)

The **Critical Tiger Habitat (CTH)** in Sariska Tiger Reserve was initially declared over 881 sq km in 2007-08 but faced delays in notification due to legal disputes over land parcels. CTH is a legally protected area under the Wildlife Protection Act, where activities like mining are prohibited within one kilometer of its boundary. The recent proposal aims to rationalize the CTH by excluding 48.39 sq km of peripheral degraded areas and adding 90.91 sq km of quality habitat from the buffer zone. This boundary rationalization affects mining operations and tiger movement corridors within Sariska.

WHY IN NEWS?

The Rajasthan government proposed redrawing Sariska's CTH boundaries to exclude several marble and dolomite mines from the no-mining zone, following a Supreme Court order that closed these mines last year.

SARPA Mobile Application

SARPA is a mobile application developed to prevent snakebite incidents by facilitating real-time reporting and expert assistance. It connects users with trained and certified snake handlers for safe capture and relocation of snakes. The app aims to reduce human-snake conflicts by educating people about snake behavior and first aid for bites. It also helps the Forest Department monitor snake populations and incidents across regions. SARPA supports conservation efforts by promoting coexistence and reducing unnecessary killing of snakes. It has become an essential tool in areas with frequent snake encounters, improving public safety and wildlife protection.

WHY IN NEWS?

The Forest Department is promoting SARPA to enhance snakebite prevention and



management amid increased human-wildlife conflict concerns.

Satpura Biodiversity Conservation Society (SBCS)

The Satpura Biodiversity Conservation Society (SBCS) is an Indian organization focused on documenting and conserving threatened plant species, especially in dry and semi-arid regions. It has contributed to the discovery and study of rare and endangered plants, including *Portulaca bharat*. SBCS members, like Nishant Chauhan, engage in field surveys, ex situ cultivation, and collaboration with institutions such as the Botanical Survey of India. The society supports biodiversity conservation through scientific research and community awareness, often working in ecologically sensitive zones like the Aravali Range and Satpura hills.

WHY IN NEWS?

SBCS member Nishant Chauhan discovered *Portulaca bharat*, a new plant species, reinforcing the society's role in biodiversity research and conservation in India's dry zones.

Scent Lure Method

The scent lure method involves spraying a small amount of perfume near camera traps placed close to snow leopard scent marking rocks. This localized scent attracts the big cats, causing them to lower their heads and expose their foreheads. Snow leopards have unique forehead patterns that serve as individual identifiers, similar to human fingerprints. This technique improves the quality of photographs for reliable identification without disturbing the animals. The method was developed and tested during the snow leopard population assessment in the Himalayas and was detailed in a 2025 study published in PLOS One.

WHY IN NEWS?

The scent lure method was revealed in a recent study explaining how snow leopards were enticed to pose for camera traps during India's 2019-23 population survey.

Schedule I of Wildlife Protection Act

Schedule I of the **Wildlife Protection Act, 1972** lists species granted the highest protection status in India, prohibiting hunting, capturing, or killing except in exceptional circumstances. It includes iconic species like tigers, elephants, and leopards. Legal actions involving Schedule I species require approval from multiple authorities, including the Tiger Conservation Authority and Project Elephant. This schedule aims to prevent extinction and ensure conservation but can restrict swift management of human-wildlife conflicts. Amendments to the schedule affect how states manage problematic animals in human habitats.

WHY IN NEWS?

Kerala requests amendment of the Wildlife Protection Act to allow culling of Schedule I animals posing threats to human life and property, citing rising wildlife attacks and legal constraints.

Scope 3+ Emissions

Scope 3+ is an expanded greenhouse gas (GHG) emissions accounting framework



proposed to capture conflict-specific sources of emissions beyond traditional scopes. It includes emissions from destruction of infrastructure, human displacement, aid delivery, fuel use in conflict zones, post-war reconstruction, and environmental damage like fires and debris. Unlike the standard Scope 1, 2, and 3 categories, Scope 3+ addresses the unique and often hidden emissions related to armed conflict. This framework aims to improve transparency and comprehensiveness in military and conflict-related emissions reporting, which are currently voluntary and underreported in international climate agreements.

WHY IN NEWS?

The study “War on the Climate” recommends adopting Scope 3+ for mandatory military emissions reporting to better capture the Israel-Gaza conflict’s carbon footprint and influence global climate policy.

Scrub Typhus

Scrub typhus is a bacterial infection caused by “Orientia tsutsugamushi”, transmitted by the bite of infected chiggers (larval mites). It is endemic in the “tsutsugamushi triangle,” covering parts of Southeast Asia, including northeast India. Symptoms include fever, rash, and eschar at the bite site. Without treatment, it can cause severe complications such as organ failure. Diagnosis is often difficult due to nonspecific symptoms. The disease responds well to antibiotics like doxycycline. Scrub typhus outbreaks often coincide with monsoon and post-monsoon seasons when mite populations increase.

WHY IN NEWS?

Scrub typhus accounted for 13.9% of zoonotic outbreaks in India’s recent surveillance data, denoting its significance among emerging infectious diseases in the region.

Secondary Particulate Matter Formation

Secondary particulate matter forms in the atmosphere from chemical reactions involving gases like sulphur dioxide (SO₂). When SO₂ is released from burning coal, it oxidizes to form sulphates, which combine with other compounds to create fine particulate matter (PM_{2.5}). This PM_{2.5} is harmful to human health, causing respiratory and cardiovascular problems. In India, approximately 15% of ambient PM_{2.5} is attributed to coal combustion, with 80% of this linked to secondary particulate matter from SO₂. Controlling SO₂ emissions through technologies like FGDs is crucial to limiting secondary particulate formation and improving air quality.

WHY IN NEWS?

The debate over FGD units in India is linked to their role in reducing SO₂ emissions that contribute to secondary particulate matter, a major cause of air pollution and health risks.

Seed Ball Making

Seed ball making is an ancient agricultural technique where seeds are encased in a mixture of clay, compost, and sometimes other natural materials to protect them from birds, insects, and harsh environmental conditions. This method improves seed germination rates and soil fertility. Seed balls can be easily dispersed in fields or barren



lands, promoting reforestation and crop diversification. The technique is used in community-driven biodiversity conservation efforts, especially in tribal and indigenous farming systems. It is a low-cost, sustainable practice that enhances seed survival and supports ecological restoration by enabling seeds to sprout in favorable microenvironments.

WHY IN NEWS?

Seed ball making was one of the key activities during the recent Beej Utsav festival, promoting indigenous seed preservation and sustainable farming practices among tribal farmers.

Selective Catalytic Reduction (SCR)

Selective Catalytic Reduction (SCR) is an advanced emission control technology used to reduce nitrogen oxides (NOx) from flue gases in thermal power plants. SCR systems inject a reductant, typically ammonia or urea, into the flue gas stream, which then passes through a catalyst. This process converts NOx into nitrogen and water vapor, lowering harmful emissions. SCR technology is critical for meeting stringent environmental regulations and improving air quality. It operates effectively at high temperatures, making it suitable for supercritical power plants like Ghatampur. The technology can achieve NOx reduction efficiencies of up to 90%.

WHY IN NEWS?

SCR technology is part of the environmental safeguards adopted at the Ghatampur Thermal Power Project to control nitrogen oxide emissions and comply with pollution norms.

Shade-Grown Coffee

Shade-grown coffee is cultivated under a canopy of native and mixed shade trees, preserving biodiversity and supporting ecosystems. This method helps in soil and water conservation and enhances carbon sequestration. It sustains small and marginal farmers by offering crop diversification opportunities. India is among the few countries actively promoting shade-grown coffee, which aligns with environmental regulations like the EUs deforestation rules. This sustainable practice protects forests while producing coffee, helping India maintain export markets sensitive to ecological impacts.

WHY IN NEWS?

Promoted by the Coffee Board and growers like Bose Mandana, shade-grown coffee is part of India's strategy to boost sustainable coffee exports amid global environmental regulations.

Sharavati Lion Tailed Macaque Wildlife Sanctuary

The **Sharavati Lion Tailed Macaque Wildlife Sanctuary** is located in the Sagar taluk of Shivamogga district, Karnataka. It is primarily established to protect the **endemic Lion-tailed macaque (Macaca silenus)**, a primate species found only in the Western Ghats. The sanctuary covers dense evergreen forests and is part of a critical biodiversity hotspot. The Lion-tailed macaque is known for its distinctive silver-white mane and is classified as



Endangered by the IUCN. The sanctuary also supports various other flora and fauna species unique to the Western Ghats ecosystem and is crucial for watershed protection of the Sharavati River basin.

WHY IN NEWS?

The sanctuary is in the news due to the arrest of farmers accused of illegal entry with weapons, leading to protests and allegations of assault by forest staff, escalating local tensions.

Short-tailed Kukri Snake

The Short-tailed Kukri (*Oligodon brevicauda*) is a small, rear-fanged snake native to the Western Ghats. It is named for its kukri-shaped teeth used to slice reptile eggs. This species is nocturnal and terrestrial, often found in leaf litter or under logs. It preys mainly on lizard and snake eggs, playing a role in controlling reptile populations. The snake is listed as endangered due to habitat loss and fragmentation. Its short tail distinguishes it from other kukri snakes. It is non-venomous to humans and exhibits secretive behavior, making sightings rare.

WHY IN NEWS?

The Short-tailed Kukri was listed among the endangered reptiles recorded during the 2025 herpetofauna survey in Periyar Tiger Reserve, emphasizing conservation concerns.

Siamese Fireback

The **Siamese Fireback** (*Lophura diardi*) is a pheasant species native to the dense tropical forests of **Thailand, Laos, Cambodia, and Vietnam**. Males display a metallic sheen on their feathers, with brilliant **blue-orange wings** and a distinctive **red beak**. Their breeding season occurs from **March to June**, during which males perform elaborate wing-spreading dances to attract females. Females build nests near the ground and lay 4-6 eggs. The species is shy, primarily foraging on the forest floor. It is currently listed as **Least Concern** but faces threats from deforestation and climate change.

WHY IN NEWS?

The Siamese Fireback was spotted for the first time in Ranikhet, Uttarakhand, marking a rare and sighting outside its usual Southeast Asian range.

Siang Upper Multipurpose Project (SUMP)

The **Siang Upper Multipurpose Project** is a hydroelectric dam proposed on the Siang River in Arunachal Pradesh, with a potential capacity of **11,000 MW**. Declared a **National Project** in 2008, it aims to provide flood control, water storage, and power generation. The project focuses on mitigating downstream flooding in Arunachal Pradesh, Assam, and Bangladesh, primarily prioritizing safety and environmental concerns over electricity production. It involves extensive engagement with Project Affected Families (PAFs) for equitable compensation and rehabilitation. The project is part of Arunachal Pradesh's larger plan to harness its hydropower potential during the 2025-35 Decade of Hydro Power.

WHY IN NEWS?

The Arunachal Pradesh Cabinet recently discussed concerns about the Pre-Feasibility



Report and measures to build consensus among affected communities for the Siang Upper Multipurpose Project.

Siltation

Siltation is the process of sediment accumulation in riverbeds, reducing water-carrying capacity. In Assam, **deforestation upstream** leads to increased sediment runoff into the Brahmaputra and its tributaries. This causes the riverbed to rise annually, making rivers prone to overflowing even during moderate rainfall. Siltation contributes to the frequency and severity of floods. It also impacts aquatic ecosystems and navigation. Dredging is a common mitigation method but is expensive and logistically challenging. Siltation is exacerbated by soil erosion and land-use changes in the catchment areas.

WHY IN NEWS?

Rapid siltation is cited as a major but under-discussed cause of the 2025 Assam floods, worsening the flood impact by reducing river capacity.

Sindoor Plant

The Sindoor plant, scientifically known as “*Ailanthus excelsa*”, is a deciduous tree native to India and Southeast Asia. It is often used in traditional medicine and known for its rapid growth and resilience in arid conditions. The tree’s bark contains compounds with anti-inflammatory properties and is sometimes used in Ayurvedic remedies. The Sindoor plant is also culturally in India, symbolizing strength and protection. It is not commonly planted in urban areas, making its presence at the Prime Ministers residence notable. The tree can grow up to 20 meters tall and is drought-resistant, thriving in poor soil conditions.

WHY IN NEWS?

Prime Minister Narendra Modi planted a Sindoor sapling gifted by brave women of Kutch at his official residence on World Environment Day, symbolizing valor and women’s power.

Single-Use Plastic Challan Mobile App

The Single-Use Plastic Challan Mobile App is a digital tool developed to enforce regulations against illegal plastic use in Himachal Pradesh. It enables officials from 13 government departments to issue instant, paperless challans (fines) directly through their mobile devices. This app streamlines the enforcement process, improving efficiency and transparency. It integrates GPS and time-stamping features to record violations accurately. The app’s backend supports data analytics for monitoring plastic use trends. It represents a step in digital governance and environmental protection by enabling real-time action against plastic pollution offenders across the state.

WHY IN NEWS?

The app was launched by the Himachal Pradesh Chief Minister during the World Environment Day 2025 celebrations as part of the state’s anti-plastic drive.

Skin Cancer in Albinism

People with albinism have **little or no melanin**, the pigment that protects skin from ultraviolet (UV) radiation. This lack of melanin increases their risk of developing skin cancer, especially squamous cell carcinoma and basal cell carcinoma, at a much younger



age than the general population. Regular skin screenings and the use of sunscreen with high SPF are critical preventive measures. In many regions, especially in Africa, skin cancer is a leading cause of premature death among people with albinism. Access to sunscreen and protective clothing is often limited due to economic and social barriers.

WHY IN NEWS?

The 2025 IAAD theme marks the urgent need to improve skin cancer prevention and healthcare access for people with albinism.

Sloth Bear

The **sloth bear** (*Melursus ursinus*) is a nocturnal mammal native to the Indian subcontinent, recognized for its shaggy coat and insectivorous diet. It feeds extensively on termites, ants, and fruits, including Mahua flowers. Sloth bears have a unique feeding method, using their lips to suck insects. They play a key role in forest ecosystems by dispersing seeds and controlling insect populations. Despite their name, they are good climbers and swimmers. Sloth bears are classified as vulnerable due to habitat loss and human-wildlife conflict, especially in regions where they compete with humans for resources like Mahua flowers.

WHY IN NEWS?

Sloth bears are mentioned due to their competition with tribal communities for Mahua flowers, emphasizing their ecological and economic interaction in Central Indian forests.

Small Island Developing States (SIDS)

Small Island Developing States (**SIDS**) are a group of low-lying coastal countries that face unique social, economic, and environmental vulnerabilities due to their size, remoteness, and exposure to climate change. There are 38 UN-recognized SIDS spread across the Caribbean, Pacific, Atlantic, and Indian Oceans. They contribute less than 1% to global greenhouse gas emissions but suffer disproportionately from sea-level rise, extreme weather, and resource scarcity. SIDS have been advocating for recognition as Large Ocean Countries to emphasize their vast exclusive economic zones and the need for tailored international support in climate adaptation and sustainable development.

WHY IN NEWS?

The Prime Minister reaffirmed India's recognition of SIDS as Large Ocean Countries and brought into light their special vulnerabilities at the Disaster Resilient Infrastructure 2025 conference.

Snow Leopard Scent Marking Rocks

Snow leopard scent marking rocks are specific high-ridge stones where these big cats deposit scent using urine or gland secretions. These sites serve as communication hubs for territory marking and mating signals. Snow leopards frequently revisit these rocks, making them ideal locations for camera trap deployment. The rocks are typically found in rugged, elevated Himalayan terrain. Researchers use these natural behavioral sites to monitor snow leopards non-invasively. The localized scent lure perfume was applied near these rocks to attract snow leopards during the recent population assessment in India.



WHY IN NEWS?

Camera traps were placed near snow leopard scent marking rocks during the 2019-23 survey, with scent lure applied to improve photographic capture of the cats unique forehead patterns.

Soil Moisture Loss

Since 1980, about **37% of global land** has experienced soil moisture loss, a critical factor in drought severity. Soil moisture is essential for plant growth, ecosystem health, and agricultural productivity. Loss occurs due to prolonged droughts, higher temperatures, and unsustainable land use. Reduced soil moisture accelerates soil degradation and desertification, diminishing biomass and biodiversity. It also disrupts ecosystem services like water purification and carbon sequestration. These changes exacerbate drought impacts by reducing natural resilience and water retention in landscapes, further stressing agriculture and natural habitats.

WHY IN NEWS?

Soil moisture loss is brought into light in the 2025 OECD report as a key driver of increased drought severity and ecosystem degradation globally.

Solar Power Retail Outlets

India has begun installing solar power systems at more than **88,000 retail outlets** of Public Sector Oil Marketing Companies. These installations range in capacity from **less than 1 kilowatt to over 3 kilowatts**. Nearly **79,000 outlets** already have solar power setups, contributing to reduced grid dependence and promoting renewable energy use. The initiative supports green energy goals by leveraging the widespread retail network for decentralized solar power generation. These solar systems help power lighting, digital displays, and other electrical needs at fuel stations, enhancing sustainability in the petroleum retail sector.

WHY IN NEWS?

The Union Minister reviewed the status of solar power infrastructure installation at retail outlets during a Petroleum Ministry meeting focused on energy security and sustainability.

Southwest Monsoon (India)

The **Southwest Monsoon** is the primary monsoon season in India, occurring from June to September. It brings about 70-90% of India's annual rainfall, crucial for agriculture. The monsoon originates over the Arabian Sea and Bay of Bengal, driven by differential heating between the Indian subcontinent and surrounding oceans. Its arrival and spatial progression are closely monitored due to their impact on crop yield, water resources, and rural economy. Variability in monsoon strength can cause droughts or floods, affecting rural incomes and food security. Forecasting agencies use satellite data and climate models to predict monsoon behavior.

WHY IN NEWS?

The forecast of an above normal southwest monsoon in 2025 has boosted rural income and employment optimism, as reported by the Nabard RECSS survey and India Ratings



forecasts.

Tamhini Wildlife Sanctuary

Tamhini Wildlife Sanctuary is located in the Western Ghats, about 70 km from Pune, Maharashtra. It is known for its **rich biodiversity** and scenic landscapes, especially during the monsoon season. The sanctuary includes notable areas such as Andharban forest, Plus Valley, and Devkund waterfall. Plus Valley is named for its shape resembling a plus sign when viewed from above. The sanctuary offers hiking, birding, and trekking trails but has faced challenges like inadequate signboards and lack of visitor amenities. It is part of the Western Ghats, a UNESCO World Heritage site recognized for its ecological significance.

WHY IN NEWS?

The Maharashtra forest department partnered with Microsoft and CYDA to improve facilities, install solar lights, and manage waste in Tamhini Wildlife Sanctuary starting July 2025.

Tiger Conservation Plan (TCP)

The Tiger Conservation Plan (TCP) is a detailed management document prepared for each tiger reserve in India, outlining conservation strategies, permissible activities, and zoning regulations. It is mandated by the National Tiger Conservation Authority (NTCA) to ensure sustainable tiger habitat management. The TCP includes core zones (strict protection), buffer zones (regulated use), and tourism zones with approved activities like trekking or bird watching. The plan is updated periodically, typically every ten years. Unauthorized activities outside the TCP can lead to legal violations and threaten tiger populations. The TCP balances conservation needs with local community rights and eco-tourism promotion.

WHY IN NEWS?

The safari activity in Kali Tiger Reserve is allegedly not included in the current TCP, raising concerns over illegal tourism and habitat disturbance.

Tiger Necropsy

A **necropsy** is an animal autopsy conducted to determine the cause of death, involving detailed examination of organs, tissues, and bodily fluids. In tigers, necropsies help detect diseases, poisoning, trauma, or infections affecting the population. The process includes toxicological tests to identify harmful substances, histopathology to study tissue changes, and microbiological cultures to find pathogens. Necropsy findings inform wildlife management decisions and conservation strategies. It is a specialized procedure requiring veterinary pathologists with expertise in wildlife species. Necropsies are crucial in investigating unnatural deaths and preventing further losses in endangered species.

WHY IN NEWS?

A five-member expert team conducted a comprehensive necropsy on the tigress and her cubs to ascertain the cause of their deaths in Karnatakas Male Mahadeshwara Wildlife Sanctuary.



Tigers Outside Tiger Reserves

Approximately 30% of India's over 3,600 tigers live outside designated tiger reserves in territorial and wildlife forest divisions. These tigers often prey on livestock near human settlements, leading to increased human-animal conflicts. They are territorial and can displace other predators like leopards to peripheral areas, escalating conflicts. Monitoring and protection outside reserves are less stringent compared to tiger reserves. This population requires specialized management strategies due to their interaction with human habitats and fragmented forest landscapes. The government is piloting schemes to enhance protection and reduce conflict by deploying technology, veterinary support, and prey base augmentation.

WHY IN NEWS?

The Union Environment Ministry approved a pilot project to manage and monitor tigers outside tiger reserves to reduce recurring human-tiger conflicts in identified forest divisions.

United Nations Environment Programme (UNEP)

The **United Nations Environment Programme (UNEP)** was established in 1972 following the Stockholm Conference on the Human Environment. UNEP coordinates global environmental activities, promotes sustainable development, and supports countries in implementing environmentally sound policies. It leads initiatives such as World Environment Day, assigning annual themes and host countries to raise awareness. UNEP tracks environmental data, including plastic production and pollution trends. It has played a very important role in global treaties like the Montreal Protocol and the Minamata Convention. UNEP also facilitates partnerships between governments, NGOs, and the private sector to address climate change, biodiversity loss, and pollution.

WHY IN NEWS?

UNEP leads the 2025 World Environment Day campaign themed Beat Plastic Pollution, coordinating global awareness and action against plastic waste.

Van Mitras

Van Mitras are newly appointed forest protectors in Himachal Pradesh, recruited to address staff shortages in the forest department. The cadre includes many young men and women, with 30% reservation for women in related government recruitment. Van Mitras are tasked with forest protection, preventing illegal logging, forest fire vigilance, and promoting public awareness about forest conservation. They engage with rural communities to spread knowledge about forest wealth and actively participate in plantation drives. A mobile app was launched to track their attendance. Their recruitment is merit-based, and they take an oath signifying commitment to forest preservation.

WHY IN NEWS?

The Chief Minister inspected the passing-out parade of Van Mitras and launched a mobile attendance app for them in June 2025, denoting their role in forest conservation.



Vibrio cholerae

Vibrio cholerae is a gram-negative, comma-shaped bacterium responsible for cholera, an acute diarrheal illness. It produces a potent enterotoxin that disrupts ion transport in intestinal cells, causing severe watery diarrhea. The bacterium thrives in aquatic environments, especially brackish waters and estuaries. It can survive in biofilms and associate with plankton, aiding its spread. There are multiple serogroups, but O1 and O139 are primarily associated with epidemics. *V. cholerae* can be transmitted via contaminated water, food, and rarely seafood. It can persist asymptotically in human carriers for up to two weeks, facilitating transmission.

WHY IN NEWS?

Vibrio cholerae was identified in faecal samples from the Jajpur cholera outbreak, confirming the bacterial cause and guiding public health containment efforts.

Wayanad Landslides

Wayanad is a district in Kerala, located in the Western Ghats mountain range. It is prone to landslides during heavy monsoon rains due to its hilly terrain and deforestation. In 2024, intense rainfall triggered massive landslides, resulting in over 350 fatalities. The region's soil composition, steep slopes, and human activities like agriculture and construction exacerbate landslide risks. Wayanad is also known for its biodiversity and tribal communities. Landslides disrupt transportation, agriculture, and local economies, often isolating villages. The district has implemented early warning systems and afforestation programs to reduce future landslide impacts.

WHY IN NEWS?

Heavy rainfall in Kerala's Wayanad in 2024 caused deadly landslides, killing over 350 people, making it one of the deadliest natural disasters in the region that year.

Western Ghats Montane Forests

The montane forests of the Western Ghats are high-elevation ecosystems characterized by a mix of evergreen and deciduous trees, often interspersed with monoculture plantations. These forests support a high level of endemic species due to their isolation and unique climatic conditions. They experience heavy rainfall and cooler temperatures relative to surrounding lowlands. Habitat fragmentation from human settlements and agriculture threatens these forests. Montane forests are critical for maintaining regional biodiversity and water cycles. The Coonoor regions montane forests provide habitat for specialized species like Dravidogecko coonoor, which depend on the forests microhabitats such as tree bark and crevices.

WHY IN NEWS?

Dravidogecko coonoor was discovered in the montane forests of Coonoor in the Western Ghats, emphasizing the ecological importance and fragility of these high-elevation habitats.

Wheat Yield in Northern India

Wheat yields in Northern India are projected to face some of the **most severe declines**



worldwide due to rising temperatures, with potential losses ranging from **30% to 40%** under high-emission scenarios. This region is particularly vulnerable because of its climate sensitivity and limited current adaptation measures. Northern India is a major wheat producer, so these losses could have implications for food security locally and globally. In contrast, wheat-growing regions in Western China show mixed outcomes, with some areas experiencing gains and others losses.

WHY IN NEWS?

The study marks Northern India as a critical hotspot for wheat yield decline amid global warming, stressing the need for targeted adaptation strategies.

Wildlife Institute of India

The Wildlife Institute of India (WII), established in 1982, is an autonomous institution under the Ministry of Environment, Forest and Climate Change. It specializes in wildlife research, training, and conservation science. Located in Dehradun, WII conducts ecological surveys, species status assessments, and capacity building for forest officials. It played a critical role in India's Project Tiger and other flagship conservation programs. WII publishes detailed reports on wildlife habitats, including the "Status of Ungulates in Tiger Habitats of India," providing data essential for policy and management decisions in biodiversity conservation.

WHY IN NEWS?

WII released the report denoting Kanha Tiger Reserve's exceptional ungulate population and biomass, contributing to tiger conservation strategies nationwide.

Zero Liquid Discharge (ZLD) System

A Zero Liquid Discharge (ZLD) system is an advanced wastewater treatment process that eliminates liquid waste discharge from industrial plants. It recycles and reuses all water within the facility, converting wastewater into clean water and solid waste. ZLD systems use techniques such as reverse osmosis, evaporation, and crystallization to recover water and minimize environmental pollution. In thermal power plants, ZLD reduces water consumption and prevents contamination of local water bodies. The system supports sustainable water management, especially in water-scarce regions. ZLD implementation is often mandatory under Indian environmental regulations for coal-based power plants.

WHY IN NEWS?

The Ghatampur Thermal Power Project incorporates a ZLD system to ensure no liquid effluent is discharged, aligning with environmental sustainability goals.

History (India / World) & Culture

Aedicules

Aedicules are small temple-like architectural elements used as decorative motifs on temple towers. In the **Nāgara** tradition, they include the **āmalaka** (fluted bulbous capstone), **gavākṣa** (horseshoe arch or cows eye motif), and **bālapañjara** (nāsī-roofed cage aedicule). In the **Draviḍa** tradition, common aedicules are **kūṭa** (domed form), **śālā** (wagon-vault roof), and **bālapañjara**. These elements are repeated, diminished, or



superimposed to create the multi-storeyed appearance of temple spires. Aedicules evolved from functional storeys to ornamental surface appliqué, contributing to the visual complexity and symbolic meaning of temple exteriors.

WHY IN NEWS?

Highlighted as key architectural features defining the distinct aesthetics of northern and southern Indian temple towers.

Ambubachi Mela

The Ambubachi Mela is an annual Hindu festival held at the Kamakhya Temple in Guwahati, Assam, during the monsoon season, generally in June. It marks the goddess Kamakhya's annual menstruation, during which the temple remains closed for three days. The event symbolizes fertility and the Earth's creative power linked to menstruation. Agricultural activities like ploughing and sowing cease during this period. Devotees receive cloth fragments stained with the goddess's blood mark as protective amulets. The festival attracts lakhs of pilgrims and is one of Northeast India's largest religious gatherings, deeply rooted in Tantrik Shaktism traditions.

WHY IN NEWS?

Thousands of devotees are attending the Ambubachi Mela in June 2025, with the temple closed from June 22 to 25 and reopening on June 26. The Assam government has allocated funds for festival arrangements and is promoting Kamakhya-centered tourism.

Anantapadmanabha

Anantapadmanabha is a form of Lord Vishnu worshipped primarily in the Udupi region of Karnataka. The name means "the Lord reclining on the endless serpent Ananta." This deity is associated with protection and the preservation of the three worlds. The iconography often shows him with four hands holding a conch (shanka) and a spoon (uddarane), which are unusual attributes compared to typical Vishnu depictions. The deity's temple in Udupi is a pilgrimage site. Anantapadmanabha symbolizes cosmic balance, especially in narratives where Shiva's destructive dance threatens universal order.

WHY IN NEWS?

An antique lamp discovered at the Anantapadmanabha temple features a rare sculpture of Lord Anantapadmanabha holding a spoon and conch, denoting the deity's unique iconography and role in the temple's 15th-century rituals.

Balathal Skeleton

The **Balathal Skeleton** was discovered at Balathal, Rajasthan, a site of the Chalcolithic Banas culture, dating roughly 2,700 years ago. The skeleton was found in a seated posture known as samadhi, with cross-legged legs, hands resting on knees, and thumb and index fingers touching in the yogic jnanamudra. This burial posture is associated with meditation and yogic practices. Balathal is one of about 90 Banas culture sites in Rajasthan. This find is considered stronger evidence of early yoga practice than the Pashupati Seal due to the defined yogic hand gesture and burial context.

WHY IN NEWS?

The Balathal skeleton is brought into light as archaeological evidence supporting yoga's



ancient origins amid renewed interest on International Yoga Day 2025.

Banas Culture

The **Banas Culture** was a Chalcolithic culture (c. 3000–1500 BCE) located primarily in southeastern Rajasthan. It is named after the Banas River and is known for its distinctive pottery, copper tools, and settlement patterns. The culture had about 90 known sites, including Balathal. Banas people practiced early forms of agriculture, animal husbandry, and possibly ritualistic burials. The culture is for its role in the transition from the Harappan civilization to later Iron Age cultures in the region. Its archaeological finds help trace cultural and religious practices predating classical Indian traditions.

WHY IN NEWS?

The Banas culture is relevant due to the discovery of the Balathal skeleton, which provides archaeological context for the origins of yoga traditions.

Bardoli Satyagraha

The **1928 Bardoli Satyagraha** was a major civil disobedience movement led by Sardar Vallabhbhai Patel against the British colonial government's increased land tax in Bardoli, Gujarat. The farmers refused to pay the hike, resulting in the confiscation of property by British authorities. Patels leadership earned him the title "**Sardar**" (leader). The movement marked a turning point in the Indian independence struggle and demonstrated effective non-violent resistance. Bardoli's success inspired future civil disobedience campaigns. The event is commemorated annually in Gujarat and Bardoli remains a symbol of agrarian protest and leadership in Indias freedom movement.

WHY IN NEWS?

The concluding event of the 'Viksit Krishi Sankalp Abhiyan' was held in Bardoli, Gujarat, the site of the historic Bardoli Satyagraha, linking present farmer welfare initiatives to past struggles.

Bhoti Language

Bhoti is a Tibetic language spoken primarily in Ladakh, parts of Himachal Pradesh, and Tibet. It belongs to the Bodish branch of the Sino-Tibetan language family. Bhoti uses the Tibetan script and has several dialects influenced by local geography and culture. It is spoken by the majority Buddhist population in Ladakh and serves as a cultural identity marker. Despite its significance, Bhoti was not officially recognized until the 2025 Ladakh Official Languages Regulation. The language faces challenges from dominant regional languages and modernization, but institutional support aims to preserve it through education and administration.

WHY IN NEWS?

Bhoti was officially recognized as one of Ladakhs official languages in the 2025 regulation, marking a milestone in preserving the regions linguistic heritage.

Bijak

Bijak is the principal scripture of the Kabir Panth, a religious community that follows the teachings of Sant Kabir Das. It contains Kabirs poems, songs, and philosophical writings



composed in a vernacular dialect. The Bijak is divided into four sections – Ramaini, Shabda, Sakhi, and Kabir ke Dohe, each focusing on different aspects of spirituality, social critique, and ethical conduct. The text is considered a spiritual guide emphasizing devotion to a formless God, rejection of ritualism, and social equality. Bijaks language is simple yet deep, making it accessible to the common people during Kabirs time.

WHY IN NEWS?

Bijak is mentioned as one of the key collections of Kabirs works, which are celebrated and studied on Kabir Jayanti in 2025.

Buddhu Nonia

Buddhu Nonia was a freedom fighter known for his participation in the Salt Satyagraha against British rule in India. He was subjected to brutal torture, including being thrown into a boiling salt cauldron, yet he remained defiant, chanting patriotic slogans like **Bharat Mata Ki Jai** and **Vande Mataram**. He belonged to the Nonia community, which played role in India's independence movement. His centenary celebrations were held in Patna, where efforts to honor him include installing a statue. His sacrifice symbolizes the courage and resilience of many unsung revolutionaries during the colonial era.

WHY IN NEWS?

Union Minister Shivraj Singh Chouhan paid tribute to Buddhu Nonia during his centenary celebrations in Patna, denoting his sacrifice and the Nonia communitys role in Indias freedom struggle.

Chhera Panhara

Chhera Panhara is a ritual performed before the Rath Yatra where the scion of the erstwhile Puri royal family sweeps the chariots with a **golden broom**. This act symbolizes equality among devotees and emphasizes the **dignity of labour** and humility. The ritual is performed by the Puri king, currently **Gajapati Dibyasingha Deb**, who has conducted it annually since 1971. The sweeping signifies that no one is above another in the eyes of Lord Jagannath. This tradition connects the royal family to the festivals spiritual and social ethos.

WHY IN NEWS?

The Puri king performed the Chhera Panhara ritual during the 2025 Rath Yatra, continuing this centuries-old tradition that precedes the festivals chariot procession.

Chunri Mahotsav

Chunri Mahotsav is a cultural and religious festival celebrated predominantly in Rajasthan, involving the offering of colorful cloths (chunris) to deities and sacred riverbanks. It symbolizes devotion, protection, and respect for water bodies, particularly rivers like the Ganga. The festival often includes rituals like Kalash Pujan (worship of sacred pots) and community gatherings. Chunri Mahotsav strengthens traditional reverence for natural water sources and is linked to local customs supporting environmental conservation. It typically involves women and community groups, emphasizing the spiritual connection between people and rivers.



WHY IN NEWS?

During the Vande Ganga campaign in 2025, Rajasthan CM participated in Chunri Mahotsav at Keshoraipatan, Bundi, as part of water worship rituals promoting environmental awareness and cultural conservation.

Daojali Hading

Daojali Hading is a Neolithic archaeological site in Assams Dima Hasao district, dating back over **2,700 years**. Excavations revealed polished double-shouldered celts, cord-marked pottery, mortars, pestles, and jadeite stone, linking it to the broader Eastern and Southeastern Asian Neolithic cultural complex. The site shows evidence of early metallurgical activity with the discovery of a furnace and iron slag. Originally uncovered in the 1960s during road construction, much of the site was damaged but recent surveys have recovered artefacts indicating a settled habitation and on-site tool production. It is located within the Langting-Mupa Reserve Forest.

WHY IN NEWS?

Recent archaeological surveys at Daojali Hading uncovered iron slag and a furnace, confirming early metallurgy and establishing it as a major prehistoric settlement in northeastern India.

Dhrupad Music

Dhrupad is the oldest surviving form of North Indian classical music, known for its solemn and spiritual character. It evolved during the medieval period and was patronized by rulers like Raja Man Singh Tomar of Gwalior. Dhrupad performances emphasize precise intonation, elaborate alap (improvisation), and strict rhythmic cycles. The genre uses specific ragas and talas and is traditionally performed by male vocalists accompanied by pakhawaj (a barrel-shaped drum) and tanpura. Dhrupads themes are often devotional, focusing on Hindu gods and spiritual concepts. Its practice declined in the 18th century but has seen revival efforts in recent decades.

WHY IN NEWS?

The Madhya Pradesh High Court referenced Dhrupads historical importance in ruling to protect the monument where Tansen, a key Dhrupad exponent, is buried.

Feni

Feni is a traditional Goan spirit distilled from cashew apples or coconut sap. It is produced through natural fermentation followed by double distillation, typically in copper stills using the coil method. The alcohol by volume (ABV) ranges from 40 to 43 percent. The cashew apple was introduced to Goa by Portuguese missionaries in the 1600s, who also brought distillation techniques. Historically, feni makers were called **bhatikars** and used earthen pots (bhatish) under fire. The production process involves fermenting juice for 72 hours and aging the distilled spirit for a few months before bottling.

WHY IN NEWS?

Goan Feni, also called Ozzo Feni, produced by Cazcar Distillery in Nanora village, has received the Geographical Indication tag, recognizing its unique regional production and heritage.



Galtaji Temple

Galtaji Temple is a historic Hindu pilgrimage site located on the outskirts of Jaipur, Rajasthan, nestled within the Aravali hills. It is renowned for its natural springs, ancient temples, and rock formations. The temple complex includes several water tanks believed to have religious significance and supports a unique ecosystem with diverse flora and fauna adapted to the semi-arid environment. The rocky slopes around Galtaji have recently gained scientific attention due to discoveries of endemic plant species, such as *Portulaca bharat*, denoting its ecological as well as cultural importance.

WHY IN NEWS?

The new species *Portulaca bharat* was discovered growing near the Galtaji temple, linking this historic site to ongoing biodiversity research in the Aravali hills.

Ghumata Vazop

Ghumata vazop is a traditional dance from Goa performed to the rhythm of the ghumat. It is historically associated with the Christian Gawda community, among the earliest settlers of Goa. The dance is part of pre-wedding ceremonies like the roce and harvest festivals such as zagor and Shigmo. Ghumata vazop integrates musical beats with dance movements, reflecting the syncretic cultural heritage of Goa. The tradition, initially specific to the Kunbi community, has been adopted by other groups, symbolizing cultural exchange and continuity within Goan society.

WHY IN NEWS?

Ghumata vazop is mentioned as part of the evolving cultural practices in Goa, linked to the ghumat instruments heritage and its contemporary revival and reinterpretation.

Gue Monastery

Gue Monastery, located in the Spiti Valley of Himachal Pradesh, is famous for housing the **mummified remains of a Buddhist monk** named Sangha Tenzin, preserved for over 500 years. The monastery belongs to the Drukpa Kagyu sect of Tibetan Buddhism and is one of the most remote monasteries in India. It sits at an altitude of about **4,200 meters** and is accessible via challenging mountain trails. The mummy is displayed in a seated meditative posture, attracting both pilgrims and researchers interested in Buddhist history and mummification practices.

WHY IN NEWS?

Gue Monastery is among the key sites in the Lahaul-Spiti region now open to regulated tourism under the new Himachal Pradesh Border Tourism policy.

Gundicha Temple

The Gundicha Temple is the destination of Lord Jagannaths annual nine-day sojourn during Rath Yatra. It is believed to be the home of Goddess Ardhasini, the deities aunt, also called Mausima. The idols stay here from the day of Rath Yatra until the Bahuda Yatra (return journey) about nine days later. The temple is located about 3 km from the main Jagannath Temple in Puri. Pilgrims believe that witnessing the deities at Gundicha Temples **simhasana** (sacred seat) grants eternal salvation and a place in Baikuntha, the



heavenly abode.

WHY IN NEWS?

The Gundicha Temple hosts the deities during the 2025 Rath Yatra, marking the central event of the festival where millions gather to witness the idols stay.

Jambavant (Immortal Bear King)

Jambavant is a figure from Indian mythology, described as the **Immortal Bear King** and a wise warrior who played important role in the epic Ramayana. Known for his immense strength and longevity, he is said to have participated in the battle against the demon king Ravana and later assisted Lord Krishna. Jambavant is often depicted as a symbol of loyalty, courage, and wisdom. His legendary status is linked to the bears symbolic representation in Indian culture as a guardian and protector. The Indian Navys new frigate Tamals mascot is inspired by Jambavant, reflecting strength and endurance.

WHY IN NEWS?

The Indian Navys new stealth frigate, Tamal, adopts the mascot inspired by Jambavant, symbolizing the ships power and resilience, and reinforcing the cultural linkages between India and Russia through shared symbolism with the Eurasian Brown Bear.

Kalavalinadu

Kalavalinadu was a territorial division or region during the later Pandya period, governed by local chieftains such as Alagaperumal. It is mentioned in 13th-century inscriptions related to land and waterbody transactions. The chieftains acted as intermediaries in land ownership and tax collection, indicating a decentralized administrative structure. Kalavalinadus boundaries and resources were clearly defined in legal documents, including the sale of a waterbody called Nagankudi. This reflects the organized system of land management, taxation, and religious funding in medieval Tamil Nadu under Pandya rule.

WHY IN NEWS?

An inscription from 1217-1218 CE found at the temple site documents a land and waterbody sale by the chieftain of Kalavalinadu, shedding light on local governance and economy.

Kamakhya Temple

The Kamakhya Temple is a major Hindu shrine located on Nilachal Hill in Guwahati, Assam. It is dedicated to Goddess Kamakhya, a form of Shakti, and is a key center of Tantrik Shaktism. The temple is famous for its unique worship of the goddess menstruation cycle during the Ambubachi Mela. Its origins date back to the 8th-9th century, and it has been a pilgrimage site for centuries. The temple complex includes several shrines and is architecturally notable for its Nilachal style. It is considered one of the 51 Shakti Peethas, where parts of Goddess Sati are believed to have fallen.

WHY IN NEWS?

The Kamakhya Temple is central to the Ambubachi Mela, which draws lakhs of devotees. The Assam government is focusing on tourism development around the temple in 2025.



Kappa Stambham (Tribute Pillar)

The **kappa stambham** or tribute pillar is a uniquely carved stone pillar within the Simhachalam temple veranda. It is believed to possess healing properties and is an object of devotional reverence. The temple veranda features a stone chariot with stone wheels and prancing horses, symbolizing divine movement. The pillar is part of the temple's intricate granite architecture, which includes floral designs and scenes from Vishnu Puranas, exemplifying medieval South Indian temple artistry and religious symbolism.

WHY IN NEWS?

The kappa stambham is brought into light as part of the temple's architectural and cultural heritage during ongoing restoration efforts that emphasize preserving original elements and their spiritual significance.

Kondagai Burial Site

Kondagai is a burial site located approximately 800 meters from the main Keeladi excavation area. It contains urns with skeletal remains dating back around 2,500 years. Analysis shows most individuals were around 50 years old at death. Skeletal studies indicate average male height of 170.82 cm and female height of 157.74 cm. The site reveals burial customs and demographic data of the ancient Tamil population. DNA samples from Kondagai urns are being analyzed in collaboration with Harvard University to study migration and admixture patterns of ancient South Indian populations.

WHY IN NEWS?

Skulls from Kondagai were used for the first 3D facial reconstruction of ancient Tamil individuals, providing new anthropological vital information about the Sangam age inhabitants.

National Maritime Heritage Museum (NMHC)

The National Maritime Heritage Museum (NMHC) is an under-construction museum at Lothal, Gujarat, dedicated to India's maritime history and heritage. Lothal is an ancient Indus Valley Civilization port site, making the location historically significant. NMHC aims to be a world-class center for maritime education, research, and heritage tourism. It will showcase India's naval traditions, shipbuilding evolution, and maritime trade routes. The museum plans to collaborate with international partners for exhibitions and academic programs. It supports India's cultural diplomacy and maritime sector awareness.

WHY IN NEWS?

India is seeking Japanese partnership for the NMHC project, reflecting deepening cultural and maritime cooperation between the two countries.

Nonia Rebellion

The Nonia Rebellion was an uprising in the 1770s involving the Nonia community, primarily in Bihar. It was a resistance movement against oppressive colonial and feudal authorities. The rebellion is considered one of the early organized revolts by marginalized communities against British colonial rule. The Nonia community, traditionally involved in salt making and agricultural labor, sought to protect their economic and social rights.



during this period. The rebellions legacy is linked to the broader narrative of tribal and caste-based uprisings in Indias history, denoting the role of lesser-known groups in the freedom struggle.

WHY IN NEWS?

The Bihar government is recognizing the historical significance of the Nonia Rebellion as part of efforts to uplift the Nonia community and consider granting them Scheduled Tribe status.

Parikrama

Parikrama is a ritual circumambulation performed around sacred sites in Hinduism, Buddhism, Jainism, and Bon. At Mount Kailash, the Parikrama is a 52 km trek around the mountain and Lake Mansarovar, undertaken as an act of devotion and spiritual cleansing. The route reaches altitudes above 5,500 meters, including Dolma La Pass. The trek is physically demanding due to high altitude and terrain. Parikrama is believed to bring religious merit and is practiced during summer months when weather conditions permit. Pilgrims often perform the circuit on foot, sometimes prostrating fully along the path as a form of penance.

WHY IN NEWS?

The 2025 Kailash Mansarovar Yatra included completion of the Parikrama as part of the pilgrimage, symbolizing the revival of traditional religious practices after pandemic and border stand-offs.

Pashupati Seal

The **Pashupati Seal** is a small steatite artifact from the Indus Valley Civilization site of Mohenjo-daro, dated around 2,500-2,400 BCE. It depicts a seated figure with legs crossed, often interpreted as a yogic posture called mulabandhasana. The seal is linked to the deity Pashupati, considered a proto-Shiva figure. The Indus script remains undeciphered, so the seal's exact meaning is uncertain. The figures cross-legged posture is common in South Asia, complicating its identification as a yogic pose. The seal is a key piece in debates about yogas ancient origins.

WHY IN NEWS?

The Pashupati Seal is cited in discussions about the archaeological evidence for yogas antiquity during International Yoga Day celebrations in June 2025.

Piprahwa Caskets

The Piprahwa caskets are a set of ancient Buddhist reliquaries discovered in 1898 at Piprahwa, Uttar Pradesh, near the ancient city of Kapilavastu. These caskets date back over 2,300 years to the 3rd century BCE and contain relics believed to be of Lord Buddha. One notable casket features a fish-shaped knob adorned with precious gems and gold leaves. Inscriptions in Brahmi script identify the donors as members of the Sakya clan, Buddhas kin. The relics were found inside a sandstone coffer buried 18 feet underground and are classified as AA antiquities under Indian law, denoting their exceptional cultural and religious significance.



WHY IN NEWS?

The Ministry of Culture plans to publicly exhibit these sacred relics for the first time since their discovery, following a recent legal dispute over the attempted auction of some Piprahwa relics by Sothebys Hong Kong.

Polished Double-Shouldered Celts

Polished double-shouldered celts are Neolithic stone tools characterized by a symmetrical, double-shouldered shape and polished surfaces. They were primarily used as axes or adzes for woodworking and clearing land. These celts appear in Daojali Hading and other Neolithic sites in northeastern India and Southeast Asia, indicating cultural connections. The double-shouldered design improves hafting stability. They were crafted from hard stone like jadeite or other durable materials. Their presence signifies advanced lithic technology and settled agricultural communities during the Neolithic period. Polishing was a labor-intensive process that enhanced tool durability and efficiency.

WHY IN NEWS?

Polished double-shouldered celts were among the artefacts recovered in recent excavations at Daojali Hading, confirming the site's Neolithic cultural affiliation.

Pralya Tandava

Pralya Tandava refers to the destructive dance of Lord Shiva, also known as Nataraja. It symbolizes the cyclical destruction necessary for creation and renewal in Hindu cosmology. This dance is depicted with Shiva having four arms, performing a cosmic act of dissolution. The narrative often includes other deities and mythological figures reacting to the dances power. The term "Pralya" means destruction or dissolution, and "Tandava" is a vigorous dance. This motif is central to Shaiva tradition and is rarely found combined with Vaishnava imagery, making its joint depiction on the lamp unique.

WHY IN NEWS?

The 15th-century lamp discovered in Karnataka shows the Pralya Tandava, illustrating the destructive dance of Shiva alongside Vaishnava figures, emphasizing the coexistence of Shaiva and Vaishnava cults in the temple.

Pran Pratishtha

Pran Pratishtha is the **ceremonial consecration** that transforms an idol into a living deity capable of granting boons. It involves rituals that invoke divine presence into the idol, making it suitable for worship. This process is critical in Hindu temple traditions and is performed with strict adherence to Vedic rites. The ceremony often includes the chanting of mantras, homas (fire rituals), and symbolic acts like breathing life into the idol. Different forms of Ram, such as Ramlala (child form) and Ram Darbar (king form), require separate pran pratishtha ceremonies to sanctify their distinct spiritual significance.

WHY IN NEWS?

Ayodhya held a second pran pratishtha in January 2025 for the Ram Darbar idol, following the previous years consecration of the Ramlala idol, emphasizing the worship of Ram in multiple forms.



Ragnya Devi (Kheer Bhawani)

Ragnya Devi, also called Kheer Bhawani, is a Hindu goddess worshipped primarily by the Kashmiri Pandit community as their Kuldevi (family deity). She is considered an incarnation of Mata Durga. The goddess is honored at the Kheer Bhawani temple in Tulmulla, Kashmir, which is built over a sacred spring. The temple's name derives from the ritual offering of kheer, a rice and milk pudding. Legends associate her with Lanka and King Ravana, and she is said to have been brought to Kashmir by Lord Hanuman accompanied by 360 serpents. The spring's water is believed to change color reflecting the valley's fortunes.

WHY IN NEWS?

Ragnya Devi is venerated on Zyeth Atham (Jyeshtha Ashtami), observed in June, when devotees gather at Kheer Bhawani temple in Tulmulla for rituals and to witness the sacred spring's color changes.

Rakta Bastra

Rakta Bastra is the sacred red cloth distributed as prasad during the Ambubachi festival at Kamakhya Temple. It symbolizes the menstrual fluid of Goddess Kamakhya and is believed to carry divine energy related to fertility, protection, and prosperity. The cloth is a white fabric initially draped over the yoni-stone, which turns red after the goddess's symbolic menstruation period. Devotees keep pieces as amulets or blessings. Temple authorities deny any literal menstrual blood presence, emphasizing its symbolic nature. The cloth is often subject to fraudulent online sales, prompting official warnings against fake Rakta Bastra.

WHY IN NEWS?

Concerns arose in 2025 about fake Rakta Bastra being sold online, leading temple officials to clarify the sacred cloth's spiritual significance and warn against commercialization.

Ramraja Temple, Orchha

The **Ramraja Temple** in Orchha, Madhya Pradesh, is unique for worshipping Ram as the **king of Orchha**, not just as a deity. Built during the reign of Bundela ruler Madhukar Shah (1554–1592), it originated from a legend involving Queen Ganesh Kunwari who brought an idol of Ram from Ayodhya. The temple lacks the typical **shikhara** (spire) and resembles a palace with arched entrances and domed chhatris. The idol remains in the queen's former palace, not the nearby Chaturbhuj temple. The temple has a guard of honour, a martial aarti, and offers guests betel nut and perfume, unlike typical prasad.

WHY IN NEWS?

The recent pran prathista in Ayodhya consecrated Ram Darbar, while the Ramraja Temple in Orchha remains the only temple worshipping Ram explicitly as a king, denoting different forms of Ram worship.

Razakars

Razakars were paramilitary forces collaborating with the Pakistan Army during Bangladesh's 1971 Liberation War. They participated in mass atrocities, including killings,



rapes, and torture against Bengali civilians. The Razakar militia was officially formed by the Pakistan government to suppress the independence movement. After the war, many Razakars were tried for war crimes, but some evaded justice for decades. The term "Razakar" has since become a pejorative in Bangladesh, symbolizing betrayal and collaboration with oppressors during the war. Their actions contributed to the humanitarian crisis and refugee exodus to India in 1971.

WHY IN NEWS?

Sheikh Hasinas government equated protesters to descendants of Razakars, fueling anti-government protests that escalated into violence and legal charges against her.

Runnymede Meadows

Runnymede Meadows is a water-meadow alongside the River Thames in Surrey, England. It is historically as the site where King John sealed the Magna Carta on June 15, 1215. The meadow spans approximately 100 acres and has been preserved as a public open space. It is home to several memorials, including the Magna Carta Memorial erected by the American Bar Association in 1957. Runnymede also hosts the John F. Kennedy Memorial, commemorating the U.S. presidents visit in 1963. The area remains a symbol of liberty and the rule of law in English history.

WHY IN NEWS?

Runnymede Meadows is mentioned as the historic location where the Magna Carta was signed 810 years ago, marking a foundational moment in the development of modern democracies.

Sembavalam Research Centre

Sembavalam Research Centre is an archaeological and research institution involved in field studies and excavations in Tamil Nadu. The center collaborates with government bodies like the Archaeological Survey of India to explore prehistoric sites and artifacts. It focuses on uncovering evidence from the Neolithic period, including tools, grooves, and settlements, to better understand early human history in the region. The center employs multidisciplinary methods, combining archaeology with geology and anthropology. It plays a key role in documenting and preserving Tamil Nadu's cultural heritage.

WHY IN NEWS?

M. Faisal from Sembavalam Research Centre participated in the recent discovery of Neolithic rock grooves in Kanniyakumari district.

Shivrai Coins

Shivrais are copper coins minted during the reign of Chhatrapati Shivaji Maharaj in the 17th century. They were part of the Maratha monetary system and served as everyday currency. Shivrais typically feature inscriptions and symbols representing Maratha sovereignty and Shivaji's authority. These coins are important for dating archaeological sites and understanding economic history. They were widely circulated in the Deccan region and are now valuable numismatic artifacts held by institutions like the Archaeological Survey of India. Shivrais provide vital information about the administrative



and economic policies of the Maratha Empire.

WHY IN NEWS?

Shivrai coins were among the artifacts recovered during conservation efforts at Raigad Fort, emphasizing the site's historical and economic importance during Shivaji Maharaj's rule.

Simhachalam Temple Roof Techniques

The roof of the Sri Varaha Lakshmi Narasimha Swamy temple is made of **hard black stone slabs** not locally available, layered with brick jelly, surki lime, and cement mortar. Traditional waterproofing uses materials like **lime, Arabic tree gum, hirda, jaggery, okra, jute, and urad dal**, boiled and aged for over a month before mixing with lime and surkhi. Attempts to fix leaks with modern cement concrete failed, prompting restoration with ancient techniques. The roof spans **24,000 sq.ft.** and covers multiple temple sections, including the main temple and kitchen areas, preserving the structures' longevity through scientific conservation.

WHY IN NEWS?

Restoration of the temple roof began in 2025 using traditional materials and methods after modern repairs failed, with funding from the Lord Venkateswara Charitable Trust and technical support from IIT-Tirupati and the Archaeological Survey of India.

Tansen

Tansen (c. 1500–1586) was a legendary 16th-century Indian musician and one of the nine jewels (Navaratnas) in Mughal emperor Akbar's court. He is credited with popularizing the classical Dhrupad style of Hindustani music and composing numerous ragas. Tansen's contributions shaped North Indian classical music's development, blending Persian and Indian traditions. His tomb is located in Gwalior near the dargah of Hazrat Sheikh Muhammad Ghaus. Tansen's legacy includes the introduction of new ragas and innovations in vocal techniques. His life inspired many legends, including tales of his supernatural ability to bring rain through music.

WHY IN NEWS?

The court emphasized the monument housing Tansen's grave must be preserved carefully, rejecting appeals for religious and cultural activities to maintain its originality.

Thennavanisvaram Temple

The **Thennavanisvaram Temple** is an 800-year-old Shiva temple from the later Pandya period, dated to 1217-1218 CE. It was located in the village then known as Attur (now Udampatti) in Tamil Nadu. Only the foundation remains, with stone bases intact on the northern and southern sides. The temple was financially independent, supported by land and waterbody taxes dedicated to its upkeep. Its name derives from "Thennavan," a title used by the Pandyas. The temple's design and foundation align with **Silpa Sastram**, an ancient Indian text on architecture and sculpture.

WHY IN NEWS?

The temple's foundation and inscriptions were recently discovered by boys playing in Udampatti, revealing new vital information about Pandya-era socio-economic and



religious history.

UNESCO Creative Cities Network (UCCN)

The **UNESCO Creative Cities Network** was established in 2004 to promote cooperation among cities that have identified creativity as a strategic factor for sustainable urban development. It covers seven creative fields – Crafts and Folk Arts, Design, Film, Gastronomy, Literature, Media Arts, and Music. Cities in the network commit to sharing best practices, developing partnerships, and promoting cultural industries. As of 2023, over 300 cities worldwide are members. The network supports local economies by leveraging cultural assets and encourages international collaboration to preserve and innovate cultural heritage. It requires cities to submit detailed nominations and undergo verification processes.

WHY IN NEWS?

Lucknow has submitted its nomination to join the UNESCO Creative Cities Network as a City of Gastronomy, aiming to gain global recognition for its culinary heritage.

VarkalaKashi of the South

Varkala is a coastal town in Kerala known for its cliffs and beaches. It is called the “Kashi of the South” due to its spiritual importance, akin to Kashi (Varanasi) in the north. Varkala hosts the Janardana Swami Temple, pilgrimage site believed to be over 2000 years old. The town attracts devotees for its sacred water springs and religious festivals. Varkala is also a site for the Sivagiri Mutt, founded by Sree Narayana Guru, which serves as a spiritual and cultural hub promoting social reform and education in the region.

WHY IN NEWS?

Prime Minister Modi referenced Varkala as the “Kashi of the South” during the centenary event commemorating the meeting between Sree Narayana Guru and Mahatma Gandhi, emphasizing its spiritual and cultural significance.

Vesara Tradition

The **Vesara** architectural tradition is a hybrid style combining elements of the Nāgara (northern) and Draviḍa (southern) temple building traditions. Historically, it is associated with the **Deccan region**. The term “Vesara” etymologically suggests a mixture or synthesis of the two main styles but is distinct in its own right. Vesara temples often feature a blend of curvilinear towers typical of Nāgara and the pyramidal vimāna of Draviḍa. This style emerged during the medieval period and is exemplified in temples built under the Chalukya and Hoyasala dynasties. It represents regional innovation within Indian temple architecture.

WHY IN NEWS?

Discussed as the third major tradition of Indian temple architecture, illustrating the complexity of regional styles beyond the well-known northern and southern types.

Veždin’s Sanskrit Grammar

Veždin’s Sanskrit Grammar is the **first printed Sanskrit grammar written in Latin**, published in **1790** by Croatian missionary and scholar **Filip Veždin**. Veždin worked in India



as a missionary and linguist, aiming to bridge European and Indian cultures. The grammar was for European scholars learning Sanskrit, offering a systematic approach to the language using Latin script and grammatical categories. It contributed to early Indological studies in Europe. Filip Vezdin's work remains a rare example of 18th-century cross-cultural academic collaboration. The grammar was printed in Europe, not India, reflecting early scholarly interest in Sanskrit beyond the subcontinent.

WHY IN NEWS?

Prime Minister Narendra Modi received a reprint of Vezdin's Sanskrit Grammar as a symbolic gift during his historic first visit to Zagreb, denoting centuries-old cultural ties between India and Croatia.

Vijayanagar Copper Plates

The Vijayanagar copper plates are a form of royal decree inscribed on thin copper sheets, used primarily during the Vijayanagar Empire (14th-17th centuries CE) in South India. These plates recorded land grants, tax exemptions, and religious donations, often in Sanskrit using Nagari or Telugu scripts. They are valuable epigraphical sources for reconstructing political, social, and economic history. The plates were preserved by temples or royal archives and sometimes issued to Brahmins as agrahāras (land grants). The Srisailam Mallikarjunaswamy temple houses a notable collection of 78 copper leaves from this period, including the newly identified 1456 CE inscription referencing Halley's Comet.

WHY IN NEWS?

A copper plate inscription from 1456 CE belonging to the Vijayanagar period was discovered at the Srisailam Mallikarjunaswamy temple, containing the first Indian epigraphical reference to Halley's Comet.

Zyeth Atham (Jyeshtha Ashtami)

Zyeth Atham, also known as Jyeshtha Ashtami, is the eighth day of the bright half (Shukla Paksha) of the Jyeshtha month in the Hindu lunar calendar. It is day for worshipping Goddess Kheer Bhawani (Ragnya Devi) in Kashmir. This festival marks the annual fair where devotees offer prayers and kheer to the goddess for blessings of fertility, prosperity, and protection. The timing corresponds to late May or early June in the Gregorian calendar. The day is observed with rituals that emphasize purification, devotion, and community bonding among Kashmiri Pandits.

WHY IN NEWS?

Zyeth Atham was the date of the Mela Kheer Bhawani festival in June 2025, which drew large crowds of Kashmiri Pandits amid security challenges, symbolizing their cultural endurance and hope for return.

Science & Technology

3D Facial Reconstruction Technology

3D facial reconstruction uses CT scans of skulls combined with computer-assisted digital sculpting to rebuild facial musculature and estimate features. It follows anatomical and



orthodontic standards, especially when parts like lower jaws are missing. Tissue depth data from modern populations guide the process, while photographic databases help assign skin, hair, and eye colors. The method blends 80% scientific data with 20% artistic interpretation. This technique was applied for the first time in South India on Keeladi skulls by Liverpool John Moores University's Face Lab, aiding in visualizing the appearance of ancient Tamil people.

WHY IN NEWS?

The technology was used to reconstruct faces of two men from Keeladi, revealing ancestral links and supporting Tamil cultural antiquity claims.

Actinobacteria

Actinobacteria are a group of Gram-positive bacteria known for producing many antibiotics, including streptomycin and tetracycline. They constitute **40-43%** of microbial diversity in the Rajgir hot spring, higher than previously reported in other hot springs. These bacteria produce antimicrobial compounds that inhibit pathogenic bacteria such as Escherichia coli and Staphylococcus aureus. Actinobacteria have complex life cycles and are important in soil ecosystems for decomposing organic materials. Their ability to produce novel antibiotics is critical in addressing the global challenge of antimicrobial resistance.

WHY IN NEWS?

Seven strains of Actinobacteria from the Rajgir hot spring were found to produce potent antimicrobials against several pathogens, offering new drug discovery opportunities.

Amylin Receptor Agonist

Amylin receptor agonists mimic amylin, a hormone co-secreted with insulin by pancreatic beta cells. Amylin regulates glucose by slowing gastric emptying, suppressing glucagon secretion, and promoting satiety. It complements insulin's action and reduces postprandial glucose spikes. Amylin receptor agonists are being developed for diabetes and obesity treatment. CagriSema is a novel drug combining GLP-1 receptor agonism with amylin receptor agonism, aiming to enhance weight loss and glycemic control. Amylin analogues were first studied in the 1980s, but recent drug formulations improve stability and tolerability.

WHY IN NEWS?

CagriSema, combining GLP-1 and amylin receptor agonism, is in clinical trials and represents a new approach to obesity and diabetes treatment, following the success of semaglutide and tirzepatide.

Anji Rail Bridge

The **Anji Bridge** is India's first cable-stayed railway bridge, located in Jammu and Kashmir. It is designed to operate in difficult mountainous terrain, providing critical rail connectivity. Cable-stayed bridges use cables directly connected to towers to support the bridge deck, offering enhanced stability and load distribution. The Anji Bridge forms part of the Udhampur-Srinagar-Baramulla Rail Link (USBRL), which includes numerous tunnels



and bridges to navigate the Himalayan landscape. Its construction required advanced engineering methods due to the regions seismic activity and harsh weather conditions.

WHY IN NEWS?

The Anji Rail Bridge was inaugurated by Prime Minister Narendra Modi on 6th June 2025, enhancing rail connectivity in Jammu and Kashmir as part of the USBRL project.

Anthocyanins

Anthocyanins are water-soluble pigments found in many plants, responsible for red, purple, and blue colors. Chemically, they belong to the flavonoid group and are antioxidants. They change color with pH and have applications in food coloring, cosmetics, and now photonics. Anthocyanins exhibit nonlinear optical behavior, such as reverse saturable absorption, which helps in laser light modulation. These pigments degrade under prolonged light exposure but can be stabilized via extraction and purification techniques like ultrasonication and centrifugation. Their natural abundance and biodegradability make them attractive for sustainable optical devices.

WHY IN NEWS?

Anthocyanins extracted from teak leaves are being studied for their nonlinear optical properties, offering a natural, eco-friendly alternative to synthetic dyes in laser protection.

Anthropics Claude

Claude is a proprietary AI language model developed by Anthropic, a company founded by former OpenAI researchers. It is designed with a focus on safety and interpretability, incorporating techniques to reduce hallucinations and biases. Claude is part of the closed AI model ecosystem, requiring extensive compute and proprietary datasets for training. It targets enterprises and governments, offering easier usability and performance optimization. Anthropic emphasizes ethical AI deployment and has raised funding to compete with models like OpenAI's GPT-4. Claude's architecture and training methods remain largely confidential.

WHY IN NEWS?

Claude was cited in Mary Meekers June 2025 report as an example of a closed-source AI model dominating enterprise and government markets.

Architecture Wall

The architecture wall refers to the difficulty alternative or non-silicon chips face integrating with the dominant **CMOS (complementary metal-oxide-semiconductor)** infrastructure that underpins modern computing. Many emerging chip technologies struggle to fit into existing manufacturing and design ecosystems, limiting scalability and adoption. Overcoming this wall requires compatibility with established semiconductor fabrication and design tools. Hybrid stochastic computing chips address this by blending with CMOS processes, allowing practical deployment without abandoning current industry standards. This compatibility is critical for wide adoption and industrial application of novel computing paradigms.

WHY IN NEWS?

China's hybrid stochastic chips overcome the architecture wall, enabling large-scale use in



aviation and industrial systems while relying on domestic manufacturing technology.

Axiom Mission

The Axiom mission is a private spaceflight initiative organized by Axiom Space, a company specializing in commercial space station missions. It involves sending private astronauts to the ISS for research, tourism, and technology demonstrations. The mission is commanded by Peggy Whitson, a former NASA astronaut with record spaceflight experience. Axiom missions aim to pave the way for future commercial space stations and expand human presence in orbit beyond government programs. These missions include training, launch, in-orbit activities, and return, integrating private participants with professional astronauts on the ISS.

WHY IN NEWS?

Axiom mission commander Peggy Whitson led the flight that carried Shubhanshu Shukla and others to the ISS in June 2025.

Bharat Gen

Bharat Gen is India's first indigenously developed, government-funded Multimodal Large Language Model (LLM) designed for 22 Indian languages. Developed under the National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS) and implemented by the TIH Foundation at IIT Bombay, it integrates text, speech, and image modalities. Bharat Gen aims to provide **region-specific AI solutions** for sectors like healthcare, education, agriculture, and governance. It supports ethical, inclusive, and multilingual AI aligned with Indian cultural values. The platform is a key part of India's AI strategy and is supported by the Department of Science and Technology (DST).

WHY IN NEWS?

Bharat Gen was launched at the BharatGen Summit 2025 by Union Minister Dr. Jitendra Singh, marking a major step in India's AI development focused on linguistic and cultural inclusivity.

Biofilms

Biofilms are structured communities of microorganisms adhering to surfaces and embedded in a self-produced extracellular matrix. They allow bacteria to survive harsh conditions by providing protection from antibiotics and immune responses. Biofilms facilitate horizontal gene transfer, enabling bacteria to exchange genetic material, including antibiotic resistance genes. These microbial communities are found in natural, industrial, and medical settings, often complicating infection treatment. Biofilms can form on living tissues, medical devices, and water systems. Their complex architecture includes channels for nutrient flow and waste removal, contributing to bacterial survival and persistence in hostile environments.

WHY IN NEWS?

The study examined how nanoplastics affect *E. coli* biofilms, showing increased genetic exchanges and enhanced bacterial survival and virulence.



Biologic Therapies for Rheumatoid Arthritis

Biologic therapies are advanced medications derived from living cells used to treat rheumatoid arthritis (RA) by targeting specific parts of the immune system. These include tumor necrosis factor (TNF) inhibitors, interleukin blockers, and B-cell depleting agents. Biologics reduce inflammation and joint damage more effectively than traditional drugs. Japans widespread use of biologics has contributed to a >22% decline in RA burden despite its high SDI. These therapies require careful monitoring due to risks of infections and high costs. Early diagnosis combined with biologics improves long-term outcomes in RA patients.

WHY IN NEWS?

Japans decline in rheumatoid arthritis burden is attributed partly to early diagnosis programs and widespread use of biologic therapies, as reported in the 2025 global study.

Birbal Sahni Institute of Palaeosciences

The Birbal Sahni Institute of Palaeosciences (BSIP), located in Lucknow, is a premier research institute specializing in paleobotany, paleontology, and geological sciences. Established in 1946, it is named after Birbal Sahni, a pioneering Indian paleobotanist. BSIP conducts scientific documentation and research on fossil sites across India, including Salkhan Fossil Park. The institute collaborates with government bodies for conservation and promotion of paleontological heritage. It played a key role in preparing the UNESCO Tentative List submission dossier for Salkhan Fossil Park. BSIP also supports workshops and training programs for global scientists.

WHY IN NEWS?

BSIP partnered with Uttar Pradesh authorities to support scientific documentation for Salkhan Fossil Parks UNESCO World Heritage Site nomination in 2025.

Bombay Blood Group

The **Bombay blood group** (also known as hh blood group) is an extremely rare blood type first identified in Mumbai. It lacks the H antigen, which is present in all other ABO blood groups. People with this blood group can only receive blood from other Bombay blood group donors. Globally, fewer than 100 cases have been documented. It is inherited in an autosomal recessive pattern and is more prevalent in certain Indian populations. Blood banks require special screening to identify this group, as routine ABO typing cannot detect it. Transfusions without matching this group can cause severe reactions.

WHY IN NEWS?

The Bombay blood group is among the ultra-rare types included in the Rare Donor Registry of India, which is being integrated with e-Rakt Kosh for better management and accessibility.

Chenab Bridge

The Chenab Bridge is the worlds highest railway bridge, with a deck height of **359 meters** above the Chenab River, surpassing the Eiffel Tower by 35 meters. It spans **1,315 meters** with a steel arch of 785 meters and an approach bridge of 530 meters. Built in the seismic



zone V, it is designed to withstand earthquakes up to magnitude 8 and high-intensity blasts equivalent to 40 tonnes of TNT. The bridge uses **28,660 MT of steel** and spherical stopper bearings supplied by Swiss company Mageba. Its lifespan is estimated at 120 years.

WHY IN NEWS?

The Chenab Bridge was inaugurated on June 6, 2025, marking the completion of the Katra-Sangaldan rail section and linking Kashmir with the rest of India by rail.

Circular RNA Therapeutics

Circular RNA (circRNA) is a type of non-coding RNA characterized by a covalently closed loop structure without 5' or 3' ends. CircRNAs are stable, resistant to exonucleases, and can regulate gene expression. In therapeutics, circRNA is being explored as a platform to produce monoclonal antibodies in vivo, potentially democratizing access to biologics by simplifying manufacturing and delivery. CircRNA-based therapeutics offer advantages like longer half-life and reduced immunogenicity. Research into circRNA applications is emerging, with efforts to harness them for cost-effective, scalable antibody production and novel drug delivery systems.

WHY IN NEWS?

Dr. Anand Khedkar presented on using circular RNA to democratize monoclonal antibody access, showcasing cutting-edge innovation discussed at the THSTI monoclonal antibody symposium.

Dysprosium

Dysprosium is a **heavy rare earth element (HREE)** with the atomic number 66. It is highly valued for its exceptional magnetic and thermal properties, making it critical in manufacturing high-performance permanent magnets used in electric vehicles, wind turbines, and military applications. Dysprosium enhances magnet resistance to demagnetization at high temperatures. It is scarce in extractable quantities globally, with China dominating production and processing, accounting for about 90% of global refining capacity. Dysprosium is primarily sourced as a byproduct of mining other rare earth elements like monazite and bastnäsite. Its supply chain is geopolitically sensitive due to limited global production centers.

WHY IN NEWS?

India is negotiating with China to secure dysprosium imports, essential for domestic magnet production in electric vehicles and wind turbines, amid tightening export controls and supply chain concerns.

Elliptical Orbit Docking

Docking in an **elliptical orbit** is more challenging than in a circular orbit because the satellites' velocity and trajectory constantly change. In elliptical orbits, calculations for docking at one point become irrelevant moments later due to varying speeds and altitudes. ISRO's second SpaDeX mission aims to master this complexity, essential for missions like Chandrayaan-4. Elliptical orbits are used to gradually raise a spacecrafts



apogee through engine burns at perigee, enabling efficient slingshot trajectories toward the Moon with minimal fuel consumption.

WHY IN NEWS?

ISRO's upcoming SpaDeX 2 mission will attempt docking in elliptical orbit, advancing India's capability for complex multi-module lunar missions.

Favipiravir

Favipiravir is an antiviral drug originally developed for influenza treatment, known to inhibit RNA-dependent RNA polymerase in RNA viruses. It has shown broad-spectrum antiviral activity against several viruses, including Ebola and SARS-CoV-2. Preclinical studies at the National Institute of Virology (NIV) demonstrated Favipiravir's potential to reduce viral load and improve survival in mice infected with Chandipura virus. Clinical trials in humans for Chandipura virus are pending. The drug's mechanism involves inducing lethal mutagenesis in viral RNA, preventing replication. Favipiravir is orally administered and has been approved in some countries for emergency use during viral outbreaks.

WHY IN NEWS?

Favipiravir's potential as a treatment for Chandipura virus infection was identified in recent preclinical studies, marking progress toward addressing this high-fatality viral disease.

Fixed Drug Combinations (FDCs)

Fixed Drug Combinations (FDCs) are pharmaceutical products containing two or more active ingredients combined in a single dosage form. FDCs are used to improve treatment efficacy, reduce pill burden, and enhance patient compliance. However, irrational use of FDCs, especially involving antibiotics, can contribute to antimicrobial resistance. In India, FDCs are regulated under the Drugs and Cosmetics Rules, requiring approval by CDSCO. Veterinary FDCs include combinations of antibiotics and other drugs for livestock treatment. Monitoring and regulating FDCs in veterinary medicine is critical to controlling antimicrobial misuse and resistance development.

WHY IN NEWS?

CDSCO has requested lists of approved veterinary antibiotics, including FDCs and premixes, from zonal offices to regulate their use and reduce AMR risks.

Gaganyaan Mission

Gaganyaan is India's first crewed spaceflight program, initiated by ISRO, aiming to send Indian astronauts to low Earth orbit. The mission plans to launch a 3-member crew for up to 7 days aboard an Indian crew capsule. It includes extensive astronaut training and partnerships with foreign agencies. The program's budget exceeds Rs 10,000 crore. Four astronaut-designates, including Shubhanshu Shukla and Prasanth Nair, were selected for training. Gaganyaan intends to demonstrate human spaceflight capability and encourage India's presence in crewed space missions. The mission was initially targeted for the mid-2020s but faced delays due to technical and pandemic-related challenges.

WHY IN NEWS?

Shubhanshu Shukla, an astronaut-designate for the Gaganyaan mission, was part of the



Axiom-4 commercial mission to the ISS, which has been postponed indefinitely.

Genetic Influence on Folate Metabolism

Genetic variations affect how the body metabolizes folate. Polymorphisms in genes like **MTHFR (methylenetetrahydrofolate reductase)** can reduce enzyme efficiency, leading to lower folate levels despite adequate dietary intake. This can increase risks of anaemia and developmental delays. Genetic screening is not routine but may be advised in recurrent deficiency or family history cases. These mutations influence DNA synthesis and repair, impacting cognitive and physical development. Folate metabolism genes also affect susceptibility to neural tube defects and cardiovascular diseases.

WHY IN NEWS?

The study notes genetic factors as a cause of folate deficiency in some children, explaining why supplementation alone may not always resolve the issue.

IPv6 Transition

IPv6, or Internet Protocol version 6, is the latest internet addressing system designed to replace IPv4 due to address exhaustion. It uses **128-bit addresses**, allowing for approximately 3.4×10^{38} unique IP addresses. IPv6 supports improved routing, security features like IPsec, and better support for mobile devices. India's transition to IPv6 is led by NIXI's IRINN division to accommodate the growing number of internet-connected devices and smart systems. IPv6 adoption also enables seamless digital access and future-proofs the internet infrastructure against the limitations of IPv4.

WHY IN NEWS?

NIXI's IRINN division is spearheading India's transition to IPv6, a critical step for expanding smart device connectivity and ensuring future-ready internet infrastructure.

Jean-Paul Pirnay Device Concept

Jean-Paul Pirnay is researching an integrated device that isolates bacteria from infections, sequences their genomes, uses AI to select effective phage genomes, synthesizes phages on-site, and administers them immediately. This device would not be regulated as a drug but as a medical device containing standard molecules like nucleotides and enzymes. The approach aims to overcome phage therapy's regulatory challenges by automating personalized treatment production. This innovation could accelerate phage therapy deployment and reduce delays in treating resistant infections by providing tailored phages in real time at the point of care.

WHY IN NEWS?

Pirnay's device is brought into light as a promising technological advancement to combat antimicrobial resistance by enabling rapid, personalized phage therapy without traditional drug regulatory hurdles.

Kalaanubhav.in

Kalaanubhav.in is an **AR/VR-enabled artisan marketplace** launched to connect traditional artisans with a broader audience through immersive technology. It integrates augmented reality (AR) and virtual reality (VR) to showcase handcrafted products digitally,



enhancing user experience and artisan visibility. The platform supports **preservation of indigenous crafts** by providing artisans with direct access to markets, bypassing intermediaries. It also offers features for virtual exhibitions and interactive storytelling about the craft heritage. Kalaanubhav.in is part of Indias digital push to empower rural and artisan communities through technology-enabled commerce.

WHY IN NEWS?

Kalaanubhav.in was launched recently as part of the S&T Clusters initiative to promote artisan products using advanced AR/VR technology, enhancing market reach and cultural preservation.

Methane-Dominated Atmospheres

Methane-dominated atmospheres are rare in exoplanets and indicate low temperatures where methane (CH₄) is stable. TOI-6894b is expected to have such an atmosphere due to its cool temperature (~420 K), much lower than typical hot Jupiters (1000-2000 K). This environment may also allow detection of ammonia (NH₃), which has never been confirmed in an exoplanet atmosphere. Studying these atmospheres helps understand chemical processes involving carbon, nitrogen, and oxygen beyond the Solar System. The James Webb Space Telescope is scheduled to observe TOI-6894bs atmosphere to analyze its composition.

WHY IN NEWS?

TOI-6894b is a prime candidate for atmospheric study with JWST due to its rare methane-rich, cool atmosphere, potentially revealing new exoplanet chemistry.

Miqnaf (Nafithromycin)

Miqnaf, or Nafithromycin, is an antibiotic developed by Wockhardt for treating Community Acquired Bacterial Pneumonia (CABP) and upper respiratory tract infections. It has received the **Qualified Infectious Disease Product (QIDP)** status from the US FDA, which expedites development and review due to unmet medical needs. Additionally, it holds the **Breakthrough Medicinal Product (BMP)** designation in Saudi Arabia. Miqnaf targets a market opportunity of approximately **₹10,800 crore in India** with over 96 million potential prescriptions. The drug is already launched in India and is part of Wockhardts strategy to address resistant bacterial infections.

WHY IN NEWS?

Miqnaf is part of Wockhardts antibiotic portfolio contributing to its growth plans, alongside the upcoming launch of Zaynich.

mRESVIA Vaccine

mRESVIA is Modernas mRNA-based vaccine targeting respiratory syncytial virus (RSV), a common cause of respiratory infections in infants and older adults. It was approved prior to mNEXSPIKE and is designed to reduce severe RSV disease. RSV causes seasonal outbreaks, especially in winter, and can result in hospitalization in high-risk groups. mRESVIA uses mRNA technology similar to Modernas COVID-19 vaccines but targets RSVs fusion protein to stimulate immunity. Its approval represents Modernas expansion into



vaccines beyond COVID-19, aiming to address multiple respiratory viruses using mRNA platforms.

WHY IN NEWS?

mRESVIA is mentioned as part of Modernas vaccine portfolio alongside mNEXSPIKE, denoting the companys broader strategy for respiratory virus prevention in the 2025-2026 season.

Muon

Muons are elementary particles similar to electrons but with a mass about **207 times greater**. They belong to the lepton family and have a mean lifetime of approximately **2.2 microseconds** before decaying into electrons and neutrinos. Muons are naturally produced in the Earth's atmosphere when cosmic rays collide with atoms. Their behavior in magnetic fields, including a property called **anomalous magnetic moment**, is studied to test the limits of the Standard Model of particle physics. Muons can penetrate materials more deeply than electrons due to their greater mass, making them useful in applications like muon tomography for imaging geological structures.

WHY IN NEWS?

New precision measurements of the muon's wobble (anomalous magnetic moment) at Fermilab have confirmed previous unexpected results, challenging existing physics theories and prompting further study of fundamental particles.

NASA-ISRO SAR (NISAR)

The NASA-ISRO Synthetic Aperture Radar (NISAR) is a joint Earth observation satellite mission between NASA and the Indian Space Research Organisation (ISRO). It carries dual-frequency synthetic aperture radar instruments operating in L-band and S-band, enabling detailed mapping of Earth's land and ice surfaces. NISAR is designed to scan nearly all of Earth's land and ice surfaces twice every 12 days, providing high-resolution data on environmental changes, including earthquakes, volcanoes, and glacial movements. The satellites radar can penetrate clouds and operate day and night. Its data will support climate science, disaster management, and natural resource monitoring globally.

WHY IN NEWS?

NISAR is in the news due to its arrival at Sriharikota for launch, promising unprecedented Earth observation capabilities and international scientific collaboration.

National Quantum Mission

The **National Quantum Mission** is an Government of India initiative launched to accelerate research, development, and deployment of quantum technologies. It focuses on quantum computing, communication, sensing, and cryptography, aiming to boost productivity and economic growth through advanced tech. The mission supports collaboration between academia, industry, and government bodies, facilitating innovation ecosystems. It allocates funding for infrastructure, human resource development, and startups. The mission targets strategic sectors including defense, healthcare, agriculture, and manufacturing. It is a multi-year program designed to position India as a global



leader in quantum science and technology.

WHY IN NEWS?

The Amaravati Quantum Valley Tech Park will operate in alignment with the National Quantum Missions goals, enhancing India's quantum technology capabilities.

National Remote Sensing Centre (NRSC)

The **National Remote Sensing Centre (NRSC)** is a premier Indian organization under ISRO responsible for remote sensing satellite data acquisition and processing. It supports natural resource management, disaster management, and environmental monitoring. NRSC operates ground stations across India for data reception and provides geospatial information services to government and private sectors. It plays an important role in monitoring glacial lakes, flood forecasting, and land use mapping. NRSC also develops software tools for satellite data analysis and collaborates internationally for space-based earth observation. It was established in 1974 and is headquartered in Hyderabad.

WHY IN NEWS?

NRSC was directed to monitor glacial lakes and act swiftly in case of outbursts as part of India's flood preparedness and disaster management efforts ahead of the 2025 monsoon season.

Ovarian Reserve

The ovarian reserve refers to the **finite pool of primordial follicles** containing oocytes present in female mammals at birth. These follicles decline in number and quality over time due to natural aging, oxidative stress, and inflammation. Unlike sperm, oocytes cannot be regenerated during life. The size and health of the ovarian reserve determine female fertility lifespan. Its depletion leads to menopause and infertility. Measuring ovarian reserve involves hormone assays like AMH (Anti-Müllerian Hormone) and ultrasound follicle counts. Preservation techniques include cryopreservation and emerging molecular interventions aimed at slowing follicle loss.

WHY IN NEWS?

The research at NIAB focuses on preserving the ovarian reserve by targeting molecular pathways to slow reproductive aging, potentially extending fertility in women and livestock.

Particle Oscillations

Particle oscillations refer to the quantum phenomenon where neutrinos change between three flavor states—electron, muon, and tau neutrinos—as they travel. This behavior implies that neutrinos have nonzero mass differences but does not measure absolute masses. The discovery of neutrino oscillations in 1998 provided the first evidence that neutrinos have mass, contradicting the Standard Model's original prediction of massless neutrinos. The oscillation parameters have been precisely measured, leading to the 2015 Nobel Prize in Physics awarded to researchers who confirmed this phenomenon experimentally.

WHY IN NEWS?

Neutrino oscillations underpin the quest to measure absolute neutrino masses,



motivating experiments like KATRIN and searches for neutrinoless double beta decay to resolve remaining fundamental questions.

Polylactic Acid (PLA) Scaffold

Polylactic Acid (**PLA**) is a biodegradable thermoplastic derived from renewable resources like corn starch or sugarcane. It is widely used in 3D printing due to its ease of processing and environmental friendliness. PLA scaffolds can be engineered with precise porosity and mechanical strength for applications in tissue engineering and environmental technologies. Its biodegradability allows it to break down into lactic acid under composting conditions. PLAs piezo-photocatalytic properties enable it to act as a support structure that interacts with catalysts and mechanical vibrations to enhance pollutant degradation.

WHY IN NEWS?

Researchers developed 3D-printed PLA scaffolds coated with Bismuth Ferrite to create an eco-friendly, efficient water purification system using sunlight and vibrations.

Pravartak IIT Madras

Pravartak is an innovation and incubation center established by IIT Madras to support startups and technology development in India. It focuses on encouraging research, entrepreneurship, and technology transfer, particularly in deep-tech sectors. Pravartak offers mentorship, prototyping facilities, and access to IIT Madras academic resources. It promotes collaborations between academia and industry and supports projects in AI, IoT, biomedical devices, and sustainable technologies. Pravartak aims to bridge the gap between research and commercialization, accelerating India's technology ecosystem growth.

WHY IN NEWS?

Representatives from IIT Madras Pravartak attended the Vidya Shakti programme inauguration to support educational technology initiatives in Andhra Pradesh.

Pre-exposure Prophylaxis (PrEP)

Pre-exposure prophylaxis (PrEP) is a preventive treatment for people at high risk of HIV infection. It involves taking antiretroviral drugs before potential exposure to the virus to reduce infection risk. PrEP was first approved by the US FDA in 2012 and typically involves daily oral medication. Lenacapavir introduces a new injectable PrEP option, requiring only two doses per year. PrEP effectiveness depends on adherence; when taken as prescribed, it can reduce HIV transmission by over 99%. Despite global recommendations, some countries, including India, have been slow to implement widespread PrEP programs.

WHY IN NEWS?

India has yet to roll out PrEP widely, even as LEN, an injectable PrEP, gains approval and is poised to transform HIV prevention strategies.

Quantum Computing Valley

The **Quantum Computing Valley** in Amaravati is India's first dedicated hub for quantum technology research and development, planned for launch by January 2026. It aims to



integrate sectors like education, healthcare, pharma, agri-tech, and med-tech. The valley will support lakhs of professionals, encouraging innovation and industrial growth aligned with the National Quantum Mission. It will serve as a collaborative platform for startups, academia, and global tech companies, enhancing India's capabilities in quantum computing applications such as optimization, drug discovery, and AI. The park represents a strategic move to position India in the global quantum technology landscape.

WHY IN NEWS?

The Amaravati Quantum Valley is set to open by January 2026, marking step in Indias quantum technology development and supporting multiple industries nationwide.

Quindecillion Memory Scale

A quindecillion is a numerical value equal to 10^{48} in the short scale system used in the United States. It is rarely referenced outside of theoretical or extreme computational contexts. The IBM Starling quantum computers state memory requirement is estimated to exceed the combined memory of a quindecillion of the worlds top supercomputers, illustrating the massive scale of quantum computational complexity. This number is vastly beyond current classical computing capabilities and marks the exponential growth in memory demands for simulating quantum states as qubit counts increase.

WHY IN NEWS?

IBMs Starling quantum computers memory requirements were described as exceeding a quindecillion supercomputers combined capacity, emphasizing the unprecedented scale of quantum computational power.

Rakesh Sharma

Rakesh Sharma was the first Indian citizen to travel to space, flying aboard the Soviet Soyuz T-11 spacecraft in 1984. He spent eight days aboard the Salyut 7 space station. Sharma was a pilot in the Indian Air Force before his selection for the Soviet Intercosmos program. During his mission, he famously responded to then Prime Minister of India Indira Gandhis question about how India looked from space by saying, "**Sare Jahan Se Achha**" (better than the entire world). His flight remains milestone in Indias space history, inspiring generations of Indian scientists and astronauts.

WHY IN NEWS?

Rakesh Sharmas legacy is brought into light as Shubhanshu Shukla becomes the second Indian astronaut to travel to space in June 2025, 41 years after Sharmas historic mission.

Raman Research Institute (RRI)

The Raman Research Institute, located in Bangalore, was founded in 1948 by Nobel laureate C.V. Raman. It is an autonomous institution under the Department of Science and Technology, Government of India. RRI focuses on fundamental research in physics, including optics, astrophysics, and quantum mechanics. The institute has made contributions to nonlinear optics and photonics research. It supports women scientists through programs like the DST Women Scientist scheme. RRI emphasizes sustainable technologies and recently discovered the nonlinear optical potential of teak leaf extracts,



promoting eco-friendly photonic materials.

WHY IN NEWS?

Scientists at RRI discovered that teak leaf extract has nonlinear optical properties useful for laser protection, advancing sustainable photonic technology research.

Samudrayaan Mission

Samudrayaan is India's manned deep-sea submersible project designed to reach depths of up to **6,000 meters**. It aims to explore the Indian Ocean's deep-sea ecosystems and mineral resources. The mission includes a submersible vehicle capable of carrying a crew for underwater scientific research, expected to have its trial dive in 2026. It is part of India's broader efforts to enhance oceanographic research and assert its presence in deep-sea exploration. The project supports the country's Blue Economy goals by providing data on marine biodiversity and potential resources for sustainable economic use.

WHY IN NEWS?

Union Minister Jitendra Singh brought into light the Samudrayaan mission's progress during the UN Ocean Conference, emphasizing India's advancements in ocean exploration technology.

Sathish Dhawan Space Centre (SHAR)

The **Sathish Dhawan Space Centre (SHAR)**, located in Sriharikota, Andhra Pradesh, is the primary launch center for the Indian Space Research Organisation (ISRO). Established in 1971, it is named after Dr. Satish Dhawan, a pioneer of Indian space research. SHAR specializes in launching satellites using Polar Satellite Launch Vehicle (PSLV) and Geosynchronous Satellite Launch Vehicle (GSLV) rockets. It also houses assembly, integration, and testing facilities for launch vehicles. The center has a dedicated tracking and telemetry station and plays a key role in India's space missions, including lunar and interplanetary exploration programs.

WHY IN NEWS?

SHAR signed a five-year MoU with Andhra Pradesh's Real Time Governance System (RTGS) to provide satellite imagery and scientific data for citizen-centric governance via the AWARE platform.

SC120 Semi-Cryogenic Stage

The **SC120** is a semi-cryogenic propulsion stage being developed by ISRO to replace the L110 liquid core stage on the LVM3 launch vehicle. It is powered by the **SE2000 engine**, which delivers thrust around 2000 kN. The semi-cryogenic stage uses a combination of liquid oxygen and refined kerosene (RP-1) as propellants, improving efficiency and payload capacity compared to the current hypergolic L110 stage. The SC120 aims to enhance ISRO's medium-to-heavy lift capabilities by enabling more cost-effective and higher-performance launches. Its development marks a step in India's indigenous engine technology evolution.

WHY IN NEWS?

The SC120 stage, powered by the SE2000 engine, is undergoing testing phases, with the latest PHTA test contributing to its qualification.



Scramjet Engine

A scramjet (supersonic combustion ramjet) engine enables sustained hypersonic flight by compressing incoming air at supersonic speeds before combustion. Unlike traditional jet engines, scramjets have no moving parts and rely on high-speed airflow for compression. The DRDO completed a **1,000-second ground test** of its scramjet engine for the ET-LDHCM, demonstrating endurance and reliability. Scramjets operate efficiently at speeds above Mach 5, allowing missiles to maintain hypersonic velocities. Their design requires advanced heat-resistant materials due to extreme thermal stresses. Scramjets are key to next-generation aerospace propulsion and hypersonic weapon systems.

WHY IN NEWS?

The successful 1,000-second ground test of the scramjet engine is a milestone toward operational deployment of India's hypersonic missile ET-LDHCM.

Secondary Surveillance Radar (SSR)

Secondary Surveillance Radar (SSR) is an air traffic control radar system that not only detects and measures the position of aircraft but also receives additional information such as identity and altitude via transponders on the aircraft. Unlike primary radar, SSR actively interrogates aircraft transponders to obtain this data, improving accuracy and safety. SSR was introduced in India after the 1996 Charkhi Dadri collision to enhance monitoring capabilities. It enables controllers to maintain safe separation between aircraft by providing altitude data, which was previously unavailable with only primary radar. SSR is a critical component in modern air traffic management systems worldwide.

WHY IN NEWS?

SSR is mentioned as one of the safety upgrades implemented in India following the 1996 mid-air collision, relevant to the context of aviation safety improvements after the 2025 Air India crash.

Seismic Avalanches

Seismic avalanches are large snow or rock slides that generate measurable seismic waves similar to small earthquakes. These avalanches can produce continuous or near-continuous seismic signals lasting minutes, often detected on volcano monitoring instruments. Unlike tectonic earthquakes, seismic avalanches do not originate from fault movement but from the sudden mass movement of materials down steep slopes. They can register on both seismic and infrasound sensors. Seismic avalanches are common on snow-covered volcanoes with steep flanks and can complicate eruption forecasting by mimicking volcanic tremor patterns.

WHY IN NEWS?

The increased seismicity at Iliamna Volcano in June 2025 was attributed by scientists to avalanches rather than volcanic unrest.

Semi-shell Nanoparticles

Semi-shell (SS) nanoparticles feature a **nano-cup morphology** partially coated with polyethylene glycol (PEG) to enhance biocompatibility. These are synthesized using a one-



step colloidal method at room temperature, avoiding multi-step processes and harsh chemicals. The SS are formed by etching a rhombic dodecahedron-shaped ZIF-8 metal-organic framework (MOF) template while simultaneously growing gold nanoparticles. This unique **structure absorbs and scatters near-infrared light**, ideal for photothermal therapy (PTT). PEG coating improves aqueous stability, blood compatibility, and cryopreservability. The SS nanoparticles have demonstrated high photothermal conversion efficiency and therapeutic efficacy in destroying metastatic breast tumors in preclinical models.

WHY IN NEWS?

Researchers developed a novel one-step synthesis of PEGylated semi-shell nanoparticles for enhanced photothermal therapy against advanced breast cancer, offering improved stability, safety, and efficacy compared to conventional methods.

Sepsis

Sepsis is a life-threatening condition caused by the body's extreme immune response to infection, leading to widespread inflammation, tissue damage, and organ failure. It can result from bacterial, viral, or fungal infections. The immune system's overreaction causes excessive release of inflammatory chemicals, damaging blood vessels and organs. Early symptoms include fever, increased heart rate, rapid breathing, and confusion. Sepsis is a leading cause of death in intensive care units worldwide. Treatment involves antibiotics, fluids, and supportive care. Mortality rates vary but can exceed 30% in severe cases. Sepsis awareness campaigns emphasize early detection and treatment to improve survival rates.

WHY IN NEWS?

Sepsis is the primary condition studied in the recent research showing statins may reduce mortality in critically ill sepsis patients by nearly 40%.

Short Tandem Repeat (STR) Analysis

STR analysis evaluates short repeating sequences of DNA called short tandem repeats, which vary widely between individuals. Typically, 15 or more hyper-variable regions on nuclear DNA are analyzed to create a DNA profile. This profile can confirm family relationships with high confidence. STRs are located within the nucleus of cells, so intact nuclear DNA is essential for this method. STR analysis is the most common and reliable technique used in forensic identification, especially when DNA quality is good and degradation is minimal. It is widely used in mass fatality events and criminal investigations worldwide.

WHY IN NEWS?

STR analysis is being used to identify victims of the Air India Boeing 787 Dreamliner crash in Ahmedabad by comparing DNA from remains with family members samples.

Shubhanshu Shukla

Shubhanshu Shukla is the 634th astronaut to travel to space and the first Indian private astronaut to visit the ISS. Before his spaceflight in 2025, he was involved in scientific and educational outreach related to space exploration. Shuklas mission included conducting



experiments, engaging with the public through communication from orbit, and representing India's growing participation in commercial spaceflight. He carried the Indian national flag, the Tiranga, symbolizing national pride. His hometown, Lucknow, celebrated his successful mission with public gatherings and honors.

WHY IN NEWS?

Shubhanshu Shukla reached the ISS on June 26, 2025, marking a milestone in India's space journey and private astronaut participation.

SHUKR Gene

The SHUKR gene, named after the word for "sperm" in several Indian languages, first appeared around 125 million years ago in eudicots, which make up 75% of all flowering plants. It is expressed in sporophyte cells of flowers and regulates pollen development by controlling pollen-specific F-box genes. F-box genes are responsible for degrading proteins that have completed their function, allowing new proteins to act during pollen development. Absence of SHUKR results in nonviable pollen. The gene and its associated F-box genes evolve rapidly, enabling flowering plants to adapt their pollen to varying environmental conditions such as temperature and humidity.

WHY IN NEWS?

The SHUKR gene was recently studied by researchers at CSIR-CCMB, Hyderabad, revealing its role in rapid flowering plant evolution and adaptation, helping to explain Darwin's "abominable mystery."

Sleep Stage Transition

The transition from wakefulness to sleep involves moving through several stages, notably **stage 1 and stage 2** of non-rapid eye movement (NREM) sleep. During this phase, muscles relax and brain activity slows, but mixed signals can cause brief muscle spasms like hypnic jerks. This transition is critical for falling asleep and maintaining sleep continuity. Disruptions here can cause sleep fragmentation. The brain's slowing activity is accompanied by decreased sensory awareness and muscle tone, preparing the body for deeper sleep stages. This phase lasts only a few minutes but is essential for healthy sleep cycles.

WHY IN NEWS?

Understanding sleep stage transitions helps explain the physiological basis for hypnic jerks and their impact on sleep quality, relevant to recent discussions on sleep health.

Small Modular Reactor (SMR)

Small Modular Reactors (SMRs) are compact nuclear reactors with a power output typically less than 300 MW(e). They are designed for modular construction, allowing factory fabrication and easier transportation. SMRs offer enhanced safety features, such as passive cooling systems, reducing the risk of accidents. Their smaller size enables deployment in remote or smaller grid areas where large reactors are unsuitable. SMRs can be integrated with renewable energy sources for grid stability. Countries like the USA, Russia, and China are advancing SMR technology. India's adoption of SMRs marks a



strategic move towards flexible, scalable nuclear power generation.

WHY IN NEWS?

Indias Union Power Minister announced the establishment of a Small Modular Reactor-based nuclear power plant in Bihar, marking the states first atomic plant under the new Nuclear Energy Mission.

Space-Time Decoupling Clutter Cancellation

Space-time decoupling clutter cancellation is a signal processing technique that separates environmental clutter from target echoes in radar data. It uses a mathematical matrix to align spatial frequencies to zero while preserving relative speed profiles, enabling the effective removal of non-linear clutter. This method is crucial for improving target detection clarity in environments with dense vegetation or structural interference. It operates on dual-channel radar echoes, enhancing the ability to distinguish moving objects from background noise by canceling unpredictable echoes. This technique improves radar sensitivity and resolution in complex detection scenarios.

WHY IN NEWS?

The Chinese radar system uses space-time decoupling two-channel clutter cancellation to achieve over 20 decibels better clarity in detecting moving targets compared to traditional radar methods.

SpaceSail Satellite Network

SpaceSail is a Chinese satellite internet company backed by the Shanghai municipal government planning to launch 648 low-earth orbit satellites in 2025 and up to 15,000 by 2030. It aims to compete with Starlink by offering extensive coverage and aligning with Chinese regulatory frameworks. SpaceSail is developing infrastructure to serve countries like Bolivia, emphasizing respect for sovereignty and local regulations. The network targets remote and underserved areas, potentially becoming a major player in global satellite internet markets. It has attracted interest from governments wary of Western private satellite providers.

WHY IN NEWS?

Bolivia is in talks with SpaceSail as a potential alternative to Starlink after rejecting Musks satellite internet service.

SpaDeX Mission

The **Space Docking Experiment (SpaDeX)** is an ISRO initiative to demonstrate autonomous docking of two satellites in orbit. The first mission involved two 220-kg satellites launched into a **470-km circular orbit**. The satellites were initially separated by a small relative velocity, then progressively brought together to dock successfully on January 16. This mission proved **power sharing** between satellites and command reception as a composite unit. India became the fourth country after the US, Russia, and China to demonstrate in-space docking. The experiment involved multiple halts at precise distances before final docking.

WHY IN NEWS?

ISRO is planning a second SpaDeX mission to dock satellites in an elliptical orbit, a more



complex maneuver critical for future lunar and space station missions.

Statins

Statins are a class of drugs primarily used to lower low-density lipoprotein (LDL) cholesterol and reduce cardiovascular disease risk. They inhibit the enzyme HMG-CoA reductase, crucial for cholesterol synthesis in the liver. Beyond lipid-lowering, statins have anti-inflammatory, immunomodulatory, antioxidative, and antithrombotic effects. Common statins include atorvastatin, simvastatin, and rosuvastatin. Side effects can include muscle pain, liver enzyme elevation, and rarely, rhabdomyolysis. Statins are being researched for additional uses such as reducing inflammation in sepsis and other inflammatory disorders. Their pleiotropic properties may help mitigate excessive immune responses and restore endothelial function.

WHY IN NEWS?

The study marks statins' potential to reduce death rates in critically ill sepsis patients, suggesting a new therapeutic role beyond cholesterol management.

Surface Photovoltage

Surface photovoltage (SPV) measures the voltage developed at a materials surface upon illumination due to charge separation. It reflects the efficiency of photo-induced charge carrier generation and separation in semiconductors. SPV values indicate the potential for photoelectrochemical activity; higher SPV suggests better charge separation and catalytic performance. It is used to characterize solar cells, photocatalysts, and photoelectrodes. The reported device achieved an SPV of 600 mV, indicating strong photoelectrocatalytic activity. SPV is sensitive to surface states, defects, and material interfaces, making it a key parameter in optimizing solar energy conversion devices.

WHY IN NEWS?

The new silicon-based photoanode demonstrated an exceptionally high surface photovoltage of 600 mV, contributing to its efficient solar-driven hydrogen production.

Tardigrades

Tardigrades, also known as water bears or moss piglets, are microscopic aquatic animals approximately **0.5 mm** long with **eight legs ending in claws**. They appeared around **600 million years ago** and survived all five mass extinction events. Their survival ability comes from entering **cryptobiosis**, particularly **anhydrobiosis**, where they lose over **95% of body water** and form a protective tun state. Unique proteins like **cytoplasmic-abundant heat soluble (CAHS)** stabilize their cells by vitrifying DNA and other components. Tardigrades withstand extreme temperatures (-272.95°C to 150°C), radiation, vacuum of space, and decades of freezing.

WHY IN NEWS?

Indian astronaut Shubhanshu Shukla will study tardigrades on the ISS in the Voyager Tardigrades mission to understand their survival mechanisms in space conditions.

Technology Development Board (TDB)

The **Technology Development Board (TDB)** was established in 1996 under the



Department of Science and Technology, Government of India. It provides financial assistance to Indian companies for commercializing indigenous technologies. TDB supports projects in sectors like biotechnology, electronics, and medical devices. It promotes innovation by offering soft loans and grants, often co-funding projects with other agencies. The board has played a key role in advancing India's technology ecosystem by enabling startups and SMEs to scale high-tech products. It also encourages collaboration between research institutions and industry for technology transfer.

WHY IN NEWS?

TDB announced financial support for Mysuru-based S3V Vascular Technologies to develop India's first indigenous thrombectomy device and set up a manufacturing facility in Chennai's Medical Devices Park.

Thermal Emission Imaging System (THEMIS)

THEMIS is an instrument aboard NASA's Mars Odyssey orbiter designed to capture thermal infrared and visible images of Mars. It helps map surface mineralogy and temperature variations, revealing volcanic, sedimentary, and atmospheric features. THEMIS can detect temperature differences as small as **0.1 Kelvin**, enabling detailed studies of Martian geology and climate. The instrument's visible camera also captures atmospheric phenomena like clouds and dust storms. THEMIS data have been critical in identifying volcanic deposits and tracking seasonal changes in Martian weather patterns, contributing to understanding Mars' past and present environmental conditions.

WHY IN NEWS?

THEMIS was used to capture the detailed dawn image of Arsia Mons and its surrounding haze, providing new data on Mars' volcanic and atmospheric interactions.

Thermophiles

Thermophiles are bacteria that thrive at temperatures between **45 to 70 degrees Celsius**. They inhabit extreme environments such as hot springs, deep-sea thermal vents, and compost piles. These bacteria produce potent antibiotics to outcompete other microorganisms in mineral-rich but harsh habitats. Some thermophilic enzymes, like the one from Thermus aquaticus, are essential for industrial applications such as the PCR test. Their heat tolerance allows them to survive where most life cannot, making them valuable for biotechnology and antibiotic discovery. Thermophiles contribute to understanding microbial diversity in extreme conditions and have potential in agriculture and medicine.

WHY IN NEWS?

Thermophilic bacteria from the Rajgir hot spring in Bihar were studied for their antibiotic-producing capabilities, denoting their role in combating antimicrobial resistance.

Vanadium Pentoxide Nanozymes

Vanadium pentoxide (V_2O_5) nanozymes are synthetic nanomaterials that mimic natural antioxidant enzymes, specifically glutathione peroxidase. They catalyze redox reactions on their surface to scavenge reactive oxygen species (ROS), reducing oxidative stress. These nanozymes are spherical and have been shown to prevent excess platelet aggregation by



controlling ROS levels. Vanadiums unique redox chemistry enables this catalytic activity. They have been tested in mouse models of pulmonary thromboembolism (PTE), where they reduced thrombosis and increased survival without toxicity. These nanozymes are synthesized through controlled chemical reactions from small building blocks, varying in size and morphology.

WHY IN NEWS?

Vanadium pentoxide nanozymes were developed by IISc researchers to combat abnormal blood clotting in pulmonary thromboembolism by reducing oxidative stress and platelet over-activation.

Vande Bharat Express

The Vande Bharat Express is Indias semi-high-speed, self-propelled train set, developed under the Make in India initiative by the Integral Coach Factory in Chennai. It can reach speeds up to 180 km/h and features modern amenities such as automatic doors, onboard Wi-Fi, and bio-vacuum toilets. The train operates with distributed traction, meaning motors are placed under multiple coaches instead of a separate locomotive. It is designed to reduce travel time on key routes and improve passenger comfort. Vande Bharat trains are energy-efficient and incorporate regenerative braking to conserve power.

WHY IN NEWS?

Indian Railways is constructing the first dedicated maintenance depot for Vande Bharat Express trains, enhancing upkeep and operational efficiency for these flagship trains.

Voyager Tardigrades Experiment

The Voyager Tardigrades experiment sends dormant tardigrades in their tun state to the ISS, where they are rehydrated and revived. It aims to study how space radiation and microgravity affect their biology, focusing on DNA repair and cellular maintenance mechanisms. The research supports future space exploration by helping develop radiation protection, muscle and bone loss prevention, and biological material preservation. This experiment builds on prior space missions, including ESAs 2007 Foton-M3, where tardigrades survived direct exposure to space vacuum and radiation, making them the first animals to do so unprotected.

WHY IN NEWS?

The experiment is part of Shubhanshu Shuklas two-week ISS mission, advancing knowledge of extremophile biology for astronaut health and space travel technology.

XFG Variant

The XFG variant is a **recombinant strain** of SARS-CoV-2, resulting from the merging of two Omicron sub-lineages, LF.7 and LP.8.1.2. It carries four key spike mutations and demonstrates **strong immune evasion**. First detected in Canada, it has rapidly spread globally, with 163 cases reported in India by June 2025, mostly in Maharashtra. XFG causes predominantly **mild upper respiratory symptoms** in vaccinated or previously infected individuals. It is not classified as a variant of concern or interest by WHO. The variant emerged through co-infection allowing genetic recombination of the virus.



WHY IN NEWS?

XFG variant cases surged in India, particularly Maharashtra, prompting monitoring by health authorities amid rising COVID-19 infections in June 2025.

Zeolites

Zeolites are microporous, aluminosilicate minerals commonly used as commercial adsorbents and catalysts. Their structure forms a three-dimensional framework of SiO₄ and AlO₄ tetrahedra linked by oxygen atoms, creating uniform pores and channels. Zeolites have high ion-exchange capacity and thermal stability, making them useful in water purification, gas separation, and petrochemical refining. Natural zeolites form from volcanic rocks, while synthetic variants are tailored for specific industrial applications. They can trap moisture and gases due to their porous structure. Zeolites are also used in agriculture to improve soil quality and in detergents to soften water by exchanging calcium and magnesium ions.

WHY IN NEWS?

Zeolites are mentioned as an alternative desiccant material used to absorb moisture in products alongside silica gel.

International Relations & Organizations**Bilateral Investment Treaty (BIT)**

A Bilateral Investment Treaty (BIT) is a legally binding agreement between two countries that establishes terms and conditions for private investment by nationals and companies of one state in another. BITs typically include provisions for fair treatment, protection from expropriation, free transfer of means, and dispute resolution mechanisms. The first BIT was signed in 1959 between Germany and Pakistan. BITs aim to encourage foreign direct investment by reducing political risk. They often include Investor-State Dispute Settlement (ISDS) clauses allowing investors to sue host states. BITs have been subject to debate regarding their impact on national sovereignty and regulatory space.

WHY IN NEWS?

India and Kyrgyzstan signed a new Bilateral Investment Treaty in June 2025, replacing the earlier 2000 agreement, to enhance investment protection and economic cooperation.

Economic and Social Council (ECOSOC)

The **Economic and Social Council** (ECOSOC) is one of the six principal organs of the United Nations, established in 1945 under the UN Charter. It serves as the central platform for discussing and coordinating international economic, social, and environmental issues. ECOSOC facilitates debate, policy recommendations, and implementation of sustainable development goals, and follows up on major UN conferences and summits. The council has 54 member states elected for three-year terms by the UN General Assembly. ECOSOC also supervises various specialized UN agencies, programs, and commissions focused on development and humanitarian affairs.

WHY IN NEWS?

India was elected to ECOSOC for the 2026-28 term, denoting its commitment to championing development issues and strengthening the council's work.



Financial Action Task Force (FATF)

The **Financial Action Task Force (FATF)** is an intergovernmental organization founded in 1989 to develop policies combating money laundering and terrorist financing. It sets international standards and promotes their effective implementation. FATF has a Global Network of over 200 jurisdictions working together to identify and mitigate financial crimes. It publishes mutual evaluation reports assessing countries compliance. FATFs blacklist and greylist influence international financial relations. Rarely issuing public condemnations, FATF has condemned only three terrorist attacks in the last decade, marking shifts in its approach to terrorism financing. It also acknowledges state-sponsored terrorism as a funding source for the first time.

WHY IN NEWS?

FATF condemned the Pahalgam terror attack, linking it to financial backing and recognizing state-sponsored terrorism as a funding source, a first in its history.

Group of Eight (G8)

The Group of Eight (G8) was an intergovernmental political forum from 1997 to 2014, consisting of Canada, France, Germany, Italy, Japan, Russia, the United Kingdom, and the United States. It evolved from the G7 with Russia's inclusion in 1997. The G8 addressed global economic governance, security, and energy policies. Russia was suspended in 2014 following its annexation of Crimea, reverting the group to the G7. The suspension was intended as a response to violations of international law. The G8 summits were often accompanied by protests and debates on globalization.

WHY IN NEWS?

US President Donald Trump publicly stated that removing Russia from the G8 was a mistake, challenging the unity of the G7 during the 2025 summit.

Intergovernmental Negotiating Committee (INC-5)

The Intergovernmental Negotiating Committee (INC-5) is the fifth session of the UN body tasked with drafting a Global Plastics Treaty. Held in Busan, South Korea, in December 2024, INC-5 resulted in a Ministerial joint statement signed by 69 countries aiming to end plastic pollution by 2040. The statement called for global criteria to phase out problematic plastics and chemicals, promote circularity, and protect health and the environment. INC-5 discussions brought into light differing country positions on regulating plastic polymer production and financial mechanisms, with some countries emphasizing development rights and others pushing for ambitious global measures.

WHY IN NEWS?

INC-5's outcomes shape ongoing treaty negotiations, with the Nice Wake-Up Call building on its commitments and addressing unresolved issues ahead of the August 2025 UN talks in Geneva.

International Seabed Authority

The **International Seabed Authority (ISA)** is a United Nations body established under the 1982 UN Convention on the Law of the Sea (UNCLOS). It regulates mineral-related



activities in international seabed areas beyond national jurisdiction, known as “The Area.” ISA grants exploration contracts and is developing a mining code to govern exploitation of deep-sea minerals. It currently oversees 17 exploration contracts but no commercial mining operations. Thirty-seven states oppose deep-sea mining in international waters, reflecting global environmental concerns. The United States is not a member of UNCLOS but pursues seabed mining under domestic legislation.

WHY IN NEWS?

ISA is conducting intergovernmental meetings to develop regulatory frameworks for deep-sea mining amid rising commercial interest and environmental debates.

Nuclear Nonproliferation Treaty (NPT)

The **Nuclear Nonproliferation Treaty (NPT)** is an international treaty opened for signature in 1968 and entered into force in 1970. It aims to prevent the spread of nuclear weapons and promote peaceful nuclear energy use. The treaty recognizes five nuclear-weapon states – the United States, Russia, China, France, and the United Kingdom. Non-nuclear states agree not to develop or acquire nuclear weapons, while nuclear states commit to disarmament negotiations. India, Pakistan, and Israel have never signed the NPT. North Korea joined in 1985 but withdrew in 2003. The treaty has 191 state parties, making it one of the most widely adhered to arms control agreements.

WHY IN NEWS?

The NPT's role is central as India and Pakistan continue nuclear arsenal expansion outside the treaty framework, raising concerns about global nonproliferation efforts.

OIC Ministerial Contact Group

The **OIC Ministerial Contact Group** is an open-ended diplomatic body formed by the Organisation of Islamic Cooperation during its 51st Council of Foreign Ministers session in 2025. Its mandate is to liaise with regional and international actors to de-escalate tensions in the Middle East, particularly to prevent further Israeli strikes on Iran. The group aims to facilitate dialogue, promote peaceful resolutions, and coordinate collective Muslim world responses to conflicts affecting member states. It is a flexible mechanism without a fixed term, designed to adapt to evolving geopolitical crises in the Islamic world.

WHY IN NEWS?

The group was announced at the 2025 OIC meeting in Istanbul as part of efforts to reduce hostilities and respond to recent Israeli military actions in Iran, Syria, and Lebanon.

Operation Sindhu

Operation Sindhu is an evacuation mission launched by the Government of India on June 18, 2025, to safely extract Indian nationals from Iran amid escalating conflict with Israel. The operation involved coordinated efforts between the Indian Embassy in Tehran and neighboring countries, notably Armenia, to facilitate land and air routes for evacuees. The first phase successfully evacuated 110 Indian students, primarily medical students from Jammu and Kashmir, Uttar Pradesh, and Karnataka. Transit points included Yerevan and Doha before arrival in New Delhi. The operation marks India's diplomatic and logistical



capabilities during international crises involving its citizens abroad.

WHY IN NEWS?

Operation Sindhu was launched to evacuate Indian nationals from Iran amid the ongoing Israel-Iran conflict, with the first group of 110 students safely reaching New Delhi on June 19, 2025.

Order of Makarios III

The **Order of Makarios III** is the highest civilian honor awarded by Cyprus, named after Archbishop Makarios III, the island nation's first president and figure in its independence movement. Established in 1991, the order recognizes distinguished services to Cyprus and its people. It has several classes, with the **Grand Cross** being the most prestigious. Recipients include foreign dignitaries and influential personalities who have strengthened Cyprus international relations. The order symbolizes Cyprus national identity and diplomatic goodwill. It is rarely awarded to heads of state, marking exceptional bilateral ties or contributions to peace and cooperation.

WHY IN NEWS?

Prime Minister Narendra Modi was awarded the Grand Cross of the Order of Makarios III by Cyprus on June 16, 2025, denoting the strengthening diplomatic relations between India and Cyprus during his visit.

Quick Impact Projects

Quick Impact Projects (QIPs) are small-scale, short-term developmental initiatives funded by India in partner countries. They aim to address immediate community needs such as infrastructure, health, education, and livelihood improvements. QIPs are designed to create visible benefits rapidly, strengthening bilateral relations and goodwill. These projects often involve local communities and governments, emphasizing sustainable development and capacity building. QIPs are component of India's development cooperation under its foreign policy frameworks like the Act East Policy and ITEC, helping to encourage grassroots-level engagement and regional stability.

WHY IN NEWS?

QIPs were mentioned as part of ongoing development cooperation between India and Vietnam, reflecting India's commitment to grassroots development and bilateral ties enhancement.

Regional Anti-Terror Structure (RATS)

The Regional Anti-Terror Structure (RATS) is an SCO-established mechanism headquartered in Tashkent, Uzbekistan, dedicated to counterterrorism cooperation among member states. It facilitates intelligence sharing, joint operations, and strategic coordination to combat terrorism, separatism, and extremism in Central Asia and beyond. RATS operates a 24/7 contact center to respond to threats and supports capacity-building initiatives. It has played a role in disrupting terrorist networks linked to Afghanistan and Pakistan. The structure is unique among regional organizations for its integrated approach combining law enforcement and military cooperation under the SCO umbrella.



WHY IN NEWS?

SCO Defence Ministers, including Indias Rajnath Singh, are expected to discuss cooperation through RATS during the Qingdao meet.

Shanghai Cooperation Organisation (SCO)

The **Shanghai Cooperation Organisation (SCO)** was established on June 15, 2001, evolving from the Shanghai Five formed in 1996 by China, Russia, Kazakhstan, Kyrgyzstan, and Tajikistan. It currently includes **10 member states** – India, China, Russia, Pakistan, Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan, Iran, and Belarus. The SCO focuses primarily on regional security, counterterrorism, and economic cooperation. It is the worlds largest regional organization by geographical area and population. The SCOs **Regional Anti-Terrorist Structure (RATS)** facilitates intelligence sharing and coordination on terrorism threats among member states. The organization is in Asian diplomacy and security dynamics.

WHY IN NEWS?

Indias Defence Minister Rajnath Singh refused to sign the SCO draft statement in June 2025 due to omission of the Pahalgam terror attack, denoting tensions within the China-dominated group over terrorism narratives.

South China Sea Disputes

The South China Sea disputes involve territorial claims by multiple countries over the resource-rich sea and its islands. China claims almost the entire sea through its **nine-dash line**, conflicting with claims from the Philippines, Vietnam, Malaysia, Brunei, and Taiwan. The area contains major shipping lanes, rich fishing grounds, and potential oil and gas reserves. Various countries have built military installations on artificial islands. The disputes have led to frequent naval and coast guard confrontations, particularly between China and the Philippines. International arbitration in 2016 ruled against Chinas claims, but China rejected the ruling and continues asserting dominance.

WHY IN NEWS?

The grounding of a Chinese fishing vessel near a Philippine-occupied island marks ongoing tensions and confrontations in the disputed South China Sea.

South-South Cooperation

South-South cooperation refers to the exchange of resources, technology, and knowledge between developing countries, primarily located in the Global South. It gained prominence in the 1970s as an alternative to traditional North-South aid. The United Nations supports South-South cooperation through dedicated frameworks and forums. It emphasizes mutual benefit, capacity building, and sustainable development without donor-recipient hierarchies. In agriculture, it facilitates sharing of indigenous knowledge, climate-resilient technologies, and institutional frameworks. South-South cooperation often involves multilateral organizations, regional groups, and bilateral partnerships, enhancing self-reliance and reducing dependency on developed nations.

WHY IN NEWS?

The ISSCA centre aims to strengthen South-South cooperation by sharing Indias



agricultural development experience with other developing countries.

UN General Assembly Ceasefire Resolution

The **UN General Assembly (UNGA) ceasefire resolution** is a non-binding motion calling for an “immediate, unconditional and permanent” ceasefire in conflict zones. It is introduced by member states and voted upon by the 193-member assembly. While not legally enforceable, it reflects global diplomatic consensus or division. Resolutions on Middle East conflicts, including Gaza, have been frequent, often denoting humanitarian concerns. Abstentions or opposing votes can indicate geopolitical alignments or strategic neutrality. Spain introduced the June 2025 resolution demanding ceasefire in Gaza, which passed with 149 votes in favor, 19 abstentions, and 12 against.

WHY IN NEWS?

India abstained from voting on the June 2025 UNGA ceasefire resolution concerning Gaza, reflecting its diplomatic stance on the Israel-Iran conflict.

UNESCO Headquarters New Delhi

The **UNESCO Headquarters in New Delhi** serves as the regional office for South Asia, covering countries including India, Bangladesh, Nepal, and Sri Lanka. Opened in 1956, it supports UNESCO's mission in education, science, culture, and communication in the region. The office facilitates cooperation with governments and civil society, promoting sustainable development and cultural heritage preservation. It hosts international conferences, seminars, and events like World Refugee Day. The building itself incorporates traditional Indian architectural elements and sustainable design principles, reflecting local cultural values and environmental concerns.

WHY IN NEWS?

The UNESCO Headquarters in New Delhi hosted the UNHCR India event for World Refugee Day 2025, denoting regional cooperation for refugee support.

UNFCCC Subsidiary Bodies (SBs)

The **UNFCCC Subsidiary Bodies (SBs)** consist of two permanent committees – the Subsidiary Body for Implementation (SBI) and the Subsidiary Body for Scientific and Technological Advice (SBSTA). They assist the UNFCCC governing bodies by reviewing implementation, providing scientific advice, and preparing negotiation agendas. SBSTA serves as a link between scientific reports from the IPCC and policymakers at COP meetings. The SBs meet twice a year, including at the Bonn Climate Change Conference, to discuss technical, scientific, and financial aspects of climate change policies. Their recommendations heavily influence COP decisions and climate governance.

WHY IN NEWS?

The Bonn Climate Change Conference 2025 was formally known as the Sessions of the UNFCCC Subsidiary Bodies, where key technical discussions took place ahead of COP31.

Uranium Enrichment Levels

Uranium enrichment is the process of increasing the percentage of the isotope **Uranium-235** in uranium. Natural uranium contains about 0.7% U-235. Low-enriched



uranium (LEU) ranges from 3% to 5% and is used in nuclear power reactors. Highly enriched uranium (HEU) exceeds 20%, with weapons-grade uranium typically enriched to about 90% U-235. Iran has enriched uranium up to 60% purity, a level higher than civilian nuclear power needs but below weapons-grade. Enrichment above 20% shortens the time needed to produce weapons-grade material. Uranium enrichment technology is closely monitored due to its dual-use potential for civilian and military purposes.

WHY IN NEWS?

Iran's uranium enrichment to 60% purity has raised international scrutiny amid concerns over potential weapons development despite Tehran's claims of peaceful intentions.

Social Development & Government Schemes

Agriculture Infrastructure Fund

The **Agriculture Infrastructure Fund** is a medium-long term credit facility launched to provide financial support for building post-harvest infrastructure and community farming assets. It offers loans at subsidized interest rates to farmers, startups, and agri-entrepreneurs for warehouses, cold storage, sorting and grading units, and processing facilities. The fund aims to reduce post-harvest losses, improve supply chains, and increase farmers' income. It is a central government initiative linked with multiple ministries, including agriculture and food processing, and is a major component of the schemes unified under the Krishi Nivesh portal.

WHY IN NEWS?

The Agriculture Infrastructure Fund is one of the flagship schemes featured on the Krishi Nivesh portal, facilitating easier access to credit and investment tracking for agricultural infrastructure development.

AMRUT Mission

The Atal Mission for Rejuvenation and Urban Transformation (AMRUT) was launched on June 25, 2015, targeting 500 cities and towns in India to improve urban infrastructure. It focuses on **water supply, sewerage, septage management, stormwater drainage, non-motorized transport, and green spaces**. AMRUT allocated up to **2.5% of project costs for parks with amenities for children and elderly**. By 2025, ₹77,640 crore of State Annual Action Plans were approved, with ₹35,990 crore as Central Assistance. Over 2.03 crore households received tap water, and 1.5 crore got sewerage connections. AMRUT 2.0 (since 2021) expanded coverage nationwide with a ₹2.99 lakh crore outlay.

WHY IN NEWS?

AMRUT completed 10 years in June 2025, marking a decade of urban infrastructure improvement and launching AMRUT 2.0 to extend water security and sanitation coverage to all Urban Local Bodies.

Annadata Households

The term "Annadata Households" refers to farming families primarily engaged in agricultural activities for their livelihood. These households produce food grains and other crops, contributing to India's food security. Annadata literally means "food provider" in



Hindi. They often rely on direct farming, allied activities like dairy and livestock, and agricultural labor. Income disparities are stark within these households, with 'poor farmers' earning less than 'rich farmers.' Many Annadata households are diversifying income sources due to increasing market and environmental uncertainties. This diversification includes non-agricultural businesses, salaried jobs, pensions, and remittances, reflecting evolving rural economic patterns.

WHY IN NEWS?

The working paper titled Reimagining Annadata Households and Their Livelihoods Beyond the Farm brought into light the growing trend of income diversification among these farming families in India.

Aspirational Cities Programme

The **Aspirational Cities Programme** was launched in 2018 by the Government of India to rapidly transform selected urban areas through improved governance and infrastructure development. It focuses on key sectors including health, education, and basic infrastructure by encouraging innovation and accountability. The program uses data-driven monitoring and citizen feedback to track progress. Aspirational Cities are chosen based on their potential for growth and need for development. The initiative aims to reduce regional disparities and improve quality of life through targeted investments and reforms. It collaborates with multiple government departments for integrated urban development.

WHY IN NEWS?

The Uttar Pradesh government sanctioned 913 smart classrooms at a cost of ₹30 crore under the Aspirational Cities Programme to enhance urban education infrastructure.

Ayushman Bharat

Ayushman Bharat, launched in 2018, is India's flagship public health insurance scheme targeting over **100 million poor and vulnerable families**. It offers coverage of up to ₹5 lakh per family annually for secondary and tertiary care hospitalisation. The program includes Health and Wellness Centres (HWCs) aimed at providing comprehensive primary healthcare, including non-communicable disease screening and maternal health. It integrates with existing health missions to expand access and reduce out-of-pocket expenses. Ayushman Bharat is the world's largest government-funded health insurance scheme by coverage. It has enrolled millions of beneficiaries and increased institutional deliveries and hospital admissions for critical illnesses.

WHY IN NEWS?

Ayushman Bharat is brought into light for its role in improving health outcomes and contributing to India's progress towards the SDG 3 targets by 2025.

Bhasha Sangam

Bhasha Sangam is an educational initiative launched to teach students 100 commonly used sentences in the 22 constitutionally recognized Indian languages. It aims to promote linguistic unity and cultural understanding among young learners. The program



encourages multilingualism from an early age, encouraging respect for diverse languages. It is implemented in schools across India and integrates language learning with cultural awareness. The initiative also supports the preservation of lesser-spoken languages and dialects, contributing to their revival. It is part of a broader government effort to strengthen national integration through language education.

WHY IN NEWS?

Mentioned by Union Home Minister Amit Shah during the Golden Jubilee Celebration of the Department of Official Language as a transformative step toward linguistic unity in India.

Bombay Parsi Panchayat

The **Bombay Parsi Panchayat** is a community organization established in 1888 to manage the social, religious, and welfare affairs of the Parsi community in Mumbai. It owns and administers community properties, runs schools, hospitals, and charitable trusts, and plays a key role in preserving Parsi culture. The Panchayat also collaborates with government bodies on initiatives like the Jiyo Parsi scheme. It is governed by elected members from the community and acts as a liaison between Parsis and government agencies. The Panchayat's involvement is crucial in addressing demographic challenges faced by Parsis.

WHY IN NEWS?

Representatives from the Bombay Parsi Panchayat participated in the biometric drive event organized by the Ministry of Minority Affairs to support the Jiyo Parsi scheme.

Direct Benefit Transfers

Direct Benefit Transfers (DBT) is a government mechanism that electronically transfers subsidies and welfare payments directly to beneficiaries' bank accounts. Launched in 2013, DBT reduces leakages and corruption by eliminating intermediaries. It covers schemes related to food subsidies, LPG, pensions, scholarships, and more. Over 450 million beneficiaries have been covered by DBT as of 2025. The system requires Aadhaar-based identification for transparency and efficiency. DBT has been instrumental in improving delivery of social welfare, saving government expenditure, and empowering poor households with timely financial support.

WHY IN NEWS?

DBT is brought into light as important factor in India's poverty reduction by ensuring efficient and transparent delivery of government welfare schemes to millions of people.

Divyangjan

Divyangjan is a term coined by the Government of India to refer to persons with disabilities, combining the Sanskrit words *divya* (divine) and *ang* (limb). Introduced by Prime Minister Narendra Modi in 2015, the term aims to promote dignity and respect for people with disabilities. It is widely used in government policies, programs, and campaigns to encourage inclusivity. The term replaces older, less sensitive terminology and emphasizes the abilities and potential of persons with disabilities rather than their



limitations.

WHY IN NEWS?

The term divyangjan appears in the context of the Sugamya Bharat App, which serves this community by addressing accessibility challenges and promoting their empowerment.

e-NAM (National Agriculture Market)

The **e-NAM** is an online trading platform launched by the Government of India in 2016 to create a unified national market for agricultural commodities. It connects over 1,000 mandis (agricultural markets) across **19 states** and 3 union territories. The platform enables farmers to get better price discovery through transparent auctions and facilitates direct buying and selling without intermediaries. e-NAM integrates with digital payment systems and provides real-time market information, including prices and commodity arrivals. It supports over **100 commodities** and aims to reduce marketing costs and increase farmers income by expanding market access.

WHY IN NEWS?

The India-Ukraine Joint Working Group meeting brought into light e-NAM as a key initiative to encourage growth in Indias agriculture sector and promote rural development through digital solutions.

eGramSwaraj

eGramSwaraj is a digital platform launched by the Ministry of Panchayati Raj to enable **online planning, monitoring, and implementation** of Panchayati Raj schemes. It provides real-time data on **village-level development activities**, financial management, and progress tracking. The platform enhances transparency and accountability in rural governance. eGramSwaraj supports elected representatives and officials in decision-making and citizen engagement. Integration with language technology platforms like Bhashini aims to make it accessible in multiple Indian languages, facilitating broader participation from diverse linguistic communities across rural India.

WHY IN NEWS?

eGramSwaraj is being integrated with Bhashinis AI language tools as part of the MoU to improve multilingual access and empower rural stakeholders in governance.

Ek Bharat Shreshtha Bharat

Ek Bharat Shreshtha Bharat is an initiative by the Government of India launched in 2015 to promote cultural integration and national unity. It pairs states and union territories to encourage exchange programs, cultural events, and language learning. The scheme aims to encourage mutual understanding and respect among diverse communities. It includes collaborations in education, sports, and tourism sectors. The program also supports infrastructural development to promote accessibility and inclusivity. It is implemented through various government departments, NGOs, and educational institutions, strengthening bonds between different regions of India.

WHY IN NEWS?

The Uttar Pradesh governments sports infrastructure upgrade for persons with disabilities is linked to promoting participation under the spirit of Ek Bharat Shreshtha Bharat.



Folate Deficiency in Adolescents

Nearly **41% of urban adolescents** in government schools across north India suffer from folate (vitamin B9) deficiency. Folate is essential for red blood cell formation, DNA and RNA synthesis, and healthy cell growth. Deficiency can cause anaemia, impaired cognitive development, behavioural issues, fatigue, and weakened immunity. Girls have a higher prevalence due to menstruation and puberty demands. Folate deficiency in adolescence can affect physical growth, brain function, and future reproductive health. Dietary sources include green leafy vegetables, legumes, citrus fruits, nuts, and fortified cereals. Supplements may be recommended where deficiency is widespread.

WHY IN NEWS?

A recent AIIMS study revealed that 41% of urban adolescents in north India suffer from folate deficiency, denoting public health concern affecting growth and development.

Forest Rights Act (FRA) Committees

The FRA mandates the establishment of multiple statutory bodies for forest rights claims – Gram Sabha Forest Rights Committees (FRCs), Sub-Divisional Level Committees (SDLCs), District Level Committees (DLCs), and State Monitoring Committees. These committees are responsible for verifying, approving, and monitoring claims by Scheduled Tribes and forest dwellers. The SDLCs and DLCs often face delays due to infrequent meetings and bureaucratic hold-ups, particularly by Forest Departments. These committees function under State governments and are the primary legal bodies empowered to decide on forest rights claims under the FRA framework.

WHY IN NEWS?

Concerns have been raised about the new FRA cells under DAJGUA operating outside these statutory committees, potentially creating confusion in claim processing.

Greenfield Institutions

Greenfield institutions refer to newly established educational or infrastructural entities built from scratch on undeveloped land, as opposed to brownfield institutions, which involve upgrading or expanding existing facilities. These institutions are planned with modern infrastructure and technologies, allowing flexibility in design and innovation. In India, greenfield institutions are promoted to ensure equitable distribution of educational resources beyond metropolitan and Tier 1 cities, addressing regional disparities. The concept supports sustainable growth by incorporating green technologies and infrastructure. Greenfield institutions help decentralize education and encourage regional development by creating new academic hubs in underserved areas.

WHY IN NEWS?

The Vice-President of India emphasized the need for greenfield institutions to expand higher education equitably, addressing regional imbalances and promoting innovation during the 99th Annual Meet of Vice Chancellors.

Hattee Community

The Hattee community was officially granted Scheduled Tribe (ST) status in 2023 by both



the central and Himachal Pradesh state governments. They primarily reside in the Trans-Giri area of Sirmaur district. The community is close-knit and distinct from other tribal groups in the state. The ST status has sparked legal disputes, with some SC and OBC members from the Hattee community contesting the classification, fearing dilution of benefits and loss of their existing status. The Himachal Pradesh High Court has issued a stay on the notification, pending a hearing scheduled for July 2025. The community seeks to retain its ST status for affirmative action benefits.

WHY IN NEWS?

The Hattee community's ST status is under judicial review in Himachal Pradesh, impacting the upcoming 2027 caste Census and associated socio-political dynamics in the region.

Health and Survival Gender Gap

The **Health and Survival gender gap** measures disparities in life expectancy, sex ratio at birth, and mortality rates between men and women. In 2024, it closed by 96.2%, the highest among all dimensions. This reflects improvements in healthcare access and reductions in maternal mortality worldwide. However, some regions still face challenges due to gender-based violence, malnutrition, and inadequate maternal health services. The indicator helps identify areas needing targeted health policies to promote gender equality in survival outcomes.

WHY IN NEWS?

The 2025 Global Gender Gap Report noted that the Health and Survival gap had closed by 96.2%, making it the dimension with the most progress globally.

Integrated Disease Surveillance Program (IDSP)

The Integrated Disease Surveillance Program (IDSP) is a decentralized, state-based surveillance system launched by the Government of India in 2004. It collects weekly data on epidemic-prone diseases from over 700 districts, aiming to detect and respond to outbreaks early. IDSP integrates human and animal health data but has faced challenges in timely reporting and follow-up documentation. The system uses both traditional and electronic reporting methods and covers diseases like dengue, malaria, and zoonoses. It plays a critical role in public health decision-making and outbreak containment in India.

WHY IN NEWS?

IDSP data was analyzed to identify trends in zoonotic outbreaks in India, revealing increased frequency and regional hotspots, with improved timeliness in outbreak reporting over recent years.

Interest Subvention Scheme

The **Interest Subvention Scheme** offers concessional interest rates on loans to handloom weavers and organizations. Under this scheme, loans are provided at a subsidized interest rate of 6% for three years, with an interest rate cap of 7%. Additionally, the credit guarantee fee for loans is covered for three years, reducing financial risk and cost for borrowers. This scheme aims to promote sustainable credit access and growth within the handloom sector by lowering the cost of borrowing. It is part of the National Handloom



Development Programme implemented through public sector banks.

WHY IN NEWS?

Public sector banks have been instructed to ensure interest subvention benefits for handloom loans are processed promptly via the centralized portal to support weavers financial needs.

Jal Swavlamban Abhiyan

Jal Swavlamban Abhiyan is a government-led water self-sufficiency campaign aimed at enhancing water conservation and management. It operates in phases, with version 2.1 focusing on reviewing completed works and 2.2 approving new projects. The campaign supports constructing water harvesting structures, desilting tanks, promoting drip irrigation, and involving local governance through gram panchayats. It collaborates with schemes like MGNREGA and PM Agriculture Irrigation Scheme 2.0. The initiative includes community participation, especially womens self-help groups (SHGs), and integrates technology such as water usage audits and mapping of water sources for efficient resource management.

WHY IN NEWS?

The Rajasthan government reviewed Jal Swavlamban Abhiyan 2.1 works and approved new projects under 2.2 during the Vande Ganga campaign, launching irrigation schemes and inspecting 575 water conservation structures statewide.

Jan Aushadhi Kendra (JAK)

Jan Aushadhi Kendras are government-run outlets under the Pradhan Mantri Bharatiya Jan Aushadhi Pariyojana (PMBJP) that provide **affordable, quality generic medicines** to the public. Launched in 2008, these centers aim to reduce healthcare costs by promoting generic drugs. Each Kendra operates under strict quality control and supply chain protocols to ensure medicine authenticity. The Kendras are strategically located to serve underserved and rural populations. They also provide medicinal awareness and counseling services. Over 10,000 Kendras operate nationwide as of 2025, contributing to India's public health infrastructure.

WHY IN NEWS?

The Jan Aushadhi Kendra Experiential Learning Program was launched in June 2025 to engage youth volunteers in the daily operations of these centers, enhancing public health outreach and skill development.

Jiyo Parsi Scheme

The **Jiyo Parsi scheme** is a government initiative launched by India's Ministry of Minority Affairs to address the declining population of the Parsi community. It has three main components – medical assistance for infertility treatments like IVF, ICSI, and surrogacy; monthly financial support for Parsi couples with children and elderly dependents; and advocacy promoting timely marriage and fertility awareness. The scheme aims to improve community health and demographic stability. Enrollment requires annual biometric authentication to ensure transparency and accountability. Over 138 new applications were



under review as of June 2025.

WHY IN NEWS?

The Ministry of Minority Affairs conducted a biometric authentication drive for beneficiaries of the Jiyo Parsi scheme in Mumbai to review and support its implementation.

Lok Adalat Mediation

Lok Adalat is an Indian alternative dispute resolution mechanism that resolves cases through mediation and conciliation. Between 2016 and 2025, India mediated **757,000 cases** through Lok Adalat, the highest globally. Lok Adalats are informal forums where disputes are settled amicably, often involving elders or local leaders, reflecting traditional Indian dispute resolution customs. The process is cost-effective, faster than courts, and legally binding if both parties agree. It covers civil, family, and compoundable criminal cases. Lok Adalats success has enhanced investor confidence and reduced court caseloads, contributing to Indias reputation as a preferred arbitration destination.

WHY IN NEWS?

The conference brought into light the role of mediation, noting Indias global leadership in Lok Adalat-mediated dispute resolution as part of strengthening arbitration ecosystems.

Longitudinal Ageing Study in India

The Longitudinal Ageing Study in India (LASI) is a large-scale, population-based study focusing on the health, economic, and social well-being of Indians aged 45 and above. It collects data on aging, chronic diseases, and cognitive function, providing vital information about dementia and other age-related conditions. LASI integrates genomic data with health and demographic information, enabling research on genetic factors affecting aging in diverse Indian populations. It is one of the most comprehensive aging studies globally, involving thousands of participants across multiple states and communities, including underrepresented groups such as scheduled tribes and castes.

WHY IN NEWS?

LASI provided the genomic data used in the recent study analyzing India's genetic history and the contribution of archaic human ancestry.

Mahila Court

Mahila Courts are special judicial forums in India established to handle cases related to crimes against women, such as sexual assault, domestic violence, and dowry harassment. These courts aim to provide a sensitive and supportive environment for female victims and witnesses. The first Mahila Court was set up in Tamil Nadu in 1993. Judges in these courts often receive training on gender sensitivity and trauma-informed approaches. Mahila Courts operate under regular sessions courts but focus exclusively on women's issues, expediting trials and ensuring privacy. Their establishment is part of broader efforts to improve womens access to justice and reduce pendency in sensitive cases.

WHY IN NEWS?

A Mahila Court in Coimbatore convicted nine men for gang rape in a high-profile case, denoting the court's role in delivering justice in sexual assault cases against women.



Mahila Sashaktikaran Maha Sammelan

The **Mahila Sashaktikaran Maha Sammelan** is a large-scale conference focused on women's empowerment in India. It brings together policymakers, activists, and community leaders to discuss gender equality, women's rights, and socio-economic development. These summits often feature workshops, cultural programs, and policy announcements aimed at improving women's participation in education, employment, and governance. The event held in Bhopal is for denoting regional and national efforts to address challenges faced by women, promoting inclusive growth and social justice. It also serves as a platform for launching initiatives that target women's health, safety, and entrepreneurship.

WHY IN NEWS?

Prime Minister Narendra Modi participated in the Mahila Sashaktikaran Maha Sammelan in Bhopal on May 31, 2025, marking the 300th birth anniversary of Ahilyabai Holkar and emphasizing women's empowerment.

Mission Indradhanush

Launched in 2014 and intensified in 2017, **Mission Indradhanush** is an immunization campaign targeting children and pregnant women who are unreached or under-vaccinated. It has vaccinated over **5.46 crore children** and **1.32 crore pregnant women**. The mission focuses on last-mile delivery, prioritizing high-risk areas and populations with low immunization rates. It operates in collaboration with state governments and uses multi-tiered task forces at state, district, and block levels for coordinated implementation. The campaign has contributed to India maintaining polio-free status since 2014.

WHY IN NEWS?

Mission Indradhanush's intensified efforts since 2017 have been credited with increasing vaccine coverage and reducing maternal and child mortality rates in India.

Mukhyamantri Digital Health Yojana (MMDHY)

The **Mukhyamantri Digital Health Yojana** is a state-level digital health initiative in Bihar designed to complement the national ABDM framework. It integrates unique patient health IDs, electronic health records, and streamlines healthcare processes such as OPD registration, e-prescriptions, and medicine dispensation. The scheme facilitates digitization at government health facilities, improving patient access and record management. MMDHY works in tandem with the Bihar Health Application Visionary Yojana for All (BHAYYA) to support digital health infrastructure statewide, enabling patients to carry their digital health records across facilities seamlessly.

WHY IN NEWS?

MMDHY has been instrumental in Bihar's success in digitizing healthcare services and supporting the high volume of ABDM registrations and QR code scans at government health centers.

Multidimensional Poverty Index

The **Multidimensional Poverty Index (MPI)** measures poverty by considering multiple



deprivations in health, education, and living standards, rather than income alone. It uses ten indicators, including nutrition, child mortality, years of schooling, sanitation, and electricity access. The MPI identifies the intensity of poverty by calculating the percentage of weighted indicators in which a household is deprived. Developed by the Oxford Poverty and Human Development Initiative and UNDP, it provides a broader understanding of poverty's impact on quality of life. India's MPI dropped from **53.8% in 2005-06 to 15.5% in 2022-23**, showing multidimensional poverty reduction.

WHY IN NEWS?

India's sharp decline in the Multidimensional Poverty Index marks improvements in health, education, and living standards, contributing to the overall reduction of poverty reported between 2011-12 and 2022-23.

National Agricultural Cooperative Marketing Federation of India (NAFED)

NAFED, established in 1958, is a national cooperative body promoting agricultural marketing and procurement in India. It acts as a central nodal agency for government schemes like the PSS, facilitating direct purchase from farmers and distribution of produce. NAFED helps stabilize prices, reduce intermediaries, and improve farmers' income. It also undertakes export and import of agricultural commodities and promotes cooperative marketing. NAFED has played a key role in price support operations for pulses, oilseeds, and other crops. It operates procurement centers nationwide and collaborates with state governments to implement procurement schemes efficiently.

WHY IN NEWS?

NAFED is involved in the 2025-26 procurement of pulses under PSS, aiming to procure up to 100% of state production in Madhya Pradesh and Uttar Pradesh to boost pulse self-sufficiency.

National Consultation on Gender Budgeting

The National Consultation on Gender Budgeting held in June 2025 was the first of its kind event in India. It brought together senior officers from 40 Central ministries, 19 States, UN Women, Asian Development Bank representatives, and experts from national institutes. The event focused on discussing measures to improve gender budgeting across sectors and sharing successful initiatives. Key topics included the development of a draft Training Manual on Gender Budgeting and strategies to enhance the impact of budget allocations on gender equality and women empowerment. The consultation aimed to encourage collaboration and capacity-building among stakeholders.

WHY IN NEWS?

Organized in June 2025 to deliberate on strengthening gender budgeting mechanisms and launching related tools like the Gender Budgeting Knowledge Hub and Training Manual.

National Critical Mineral Mission (NCMM)

The National Critical Mineral Mission (NCMM) is an Government of India initiative launched in January 2025 to boost the supply chain of critical minerals such as



neodymium, lithium, cobalt, nickel, and copper. It focuses on exploration, mining, processing, and recycling of these minerals to support strategic sectors like electric vehicles, electronics, and defense. The mission includes incentive schemes to promote recycling of critical minerals from used batteries and magnets, aiming to increase domestic production and reduce import dependency. NCMM also targets the establishment of a robust ecosystem involving industry, research institutions, and government agencies.

WHY IN NEWS?

The mines ministry is finalizing a ₹1,500 crore incentive scheme under NCMM to encourage recycling of critical minerals, including rare earth magnets and lithium extraction from used batteries.

National Polio Surveillance Network (NPSN)

The **National Polio Surveillance Network (NPSN)** was established by the World Health Organization to monitor and track polio cases across India. It comprises over 200 units nationwide, focusing on early detection and containment of poliovirus transmission. The NPSN played important role in India being declared polio-free in 2014. It operates through active surveillance, stool sample collection, and rapid response to suspected cases. The network works closely with government health systems and international bodies. Its phased wind-down plan aims to integrate polio surveillance into broader disease monitoring programs like the Integrated Diseases Surveillance Programme.

WHY IN NEWS?

The government has proposed a phased reduction of the NPSN units starting June 2025, despite concerns about polio resurgence in neighboring countries and global contexts.

National Sickle Cell Anaemia Eradication Mission

Launched on July 1, 2023, by Prime Minister Narendra Modi, the National Sickle Cell Anaemia Eradication Mission targets the eradication of sickle cell disease in India by 2047. The mission plans to screen seven crore people under 40 years of age, focusing on tribal populations disproportionately affected by the disease. It includes establishing a Centre for Tribal Health and Research Institute under AIIMS-Delhi and developing healthcare infrastructure to provide outpatient and inpatient services. The mission also emphasizes postgraduate education in tribal medicine to train health professionals for tribal healthcare needs.

WHY IN NEWS?

The mission was brought into light in the announcement of funding and healthcare infrastructure development to combat sickle cell disease in tribal communities.

New Education Policy (NEP) 2020

The New Education Policy (NEP) 2020 is a comprehensive framework introduced by the Government of India aimed at overhauling the countrys education system. It emphasizes **multidisciplinary learning, vocational education, and digital literacy**. The policy promotes **equitable access to education** for all, especially marginalized groups. NEP



encourages the use of local languages as mediums of instruction and supports the development of critical thinking and creativity. It also stresses the importance of affordable educational resources and infrastructure improvement across rural and urban areas. Implementation began in 2021 with phased rollouts across states.

WHY IN NEWS?

Gyan Posts launch aligns with the NEPs goal to reduce educational inequities by providing affordable access to printed learning materials nationwide.

Newborn Screening for Sickle Cell Disease

Newborn screening for sickle cell disease (SCD) involves testing infants shortly after birth to detect the presence of the sickle cell gene or disease. Early diagnosis allows for timely interventions such as penicillin prophylaxis, folic acid supplementation, vaccinations, and hydroxyurea therapy. This screening reduces mortality rates from 20-30% to under 5%. It also enables genetic counseling for families, helping to prevent future affected births. The program is crucial in high-prevalence and tribal areas where many cases remain undiagnosed, leading to early childhood deaths. It helps in planning long-term care and raising awareness.

WHY IN NEWS?

The India Council of Medical Research (ICMR) study screened 63,536 newborns across seven centers from 2019-2024, showing early diagnosis and treatment drastically reduce mortality in sickle cell disease.

Nilgiris Adivasi Welfare Association (NAWA)

The Nilgiris Adivasi Welfare Association (NAWA) is a tribal welfare organization based in the Nilgiris district of Tamil Nadu. It focuses on the social, economic, and health development of indigenous tribal communities. NAWA works on education, healthcare, and cultural preservation, often collaborating with government and research institutions. It plays a key role in implementing health programs, including newborn screening for genetic disorders like sickle cell disease, in tribal populations. NAWA's involvement ensures culturally sensitive outreach and better access to healthcare services for marginalized tribal groups in the Nilgiris region.

WHY IN NEWS?

NAWA was one of the seven centers participating in the ICMR newborn screening study for sickle cell disease in high-prevalence tribal areas of India.

Official Cybercrime Reporting Portal

The **Official Cybercrime Reporting Portal** is an Government of India platform designed to enable citizens to report cyber fraud, cybercrime, and related digital offenses. It supports complaints related to financial frauds, identity theft, and online harassment. The portal aims to provide a streamlined, accessible channel for cybercrime redressal, although awareness and usage remain low, with only 18% of the population able to effectively use it. The portal integrates with law enforcement agencies for timely investigation and resolution. Efforts are underway to improve its user-friendliness,



multilingual support, and mobile accessibility.

WHY IN NEWS?

The portals limited reach and complicated processes were brought into light in the 2025 survey, revealing the need for enhancements to boost cybercrime reporting among Indian citizens.

One District One Product (ODOP)

One District One Product (ODOP) is a government initiative launched in Uttar Pradesh to promote specialized products unique to each district. It aims to boost local economies by enhancing production, marketing, and export potential of these products. ODOP provides infrastructure support, skill development, and financial assistance, including subsidies for processing and packaging. The program encourages branding and Geographical Indication (GI) registration to protect indigenous products. ODOP targets increasing employment and improving livelihoods by focusing on district-level specialties, such as Kalanamak rice, handicrafts, and textiles.

WHY IN NEWS?

Kalanamak rice has been designated as a flagship product under Uttar Pradesh's ODOP initiative to enhance its production, processing, and export readiness.

Particularly Vulnerable Tribal Groups (PVTG)

Particularly Vulnerable Tribal Groups (PVTGs) are a sub-category of Scheduled Tribes recognized by the Government of India for their extremely vulnerable socio-economic conditions. There are **75 officially identified PVTGs** characterized by pre-agricultural level of technology, stagnant or declining population, low literacy, and subsistence level of economy. PVTGs receive special development attention under various government schemes, including focused welfare programs and protection of their cultural heritage. The identification of PVTGs helps in directing resources and policy measures to protect their livelihoods and promote sustainable development.

WHY IN NEWS?

PVTG-dominated districts (207 in number) are a critical focus area of the DhartiAaba Janbhagidari Abhiyan launched in June 2025 to improve socio-economic inclusion and access to government benefits.

PM Ujjwala Yojana

The **PM Ujjwala Yojana** is a government scheme launched in 2016 to provide free LPG connections to women from below poverty line households. It aims to replace traditional cooking fuels like wood and dung with cleaner LPG, reducing indoor air pollution and health hazards. Over 80 million connections have been distributed as of 2025. The scheme includes financial support for the initial deposit and aims to empower women by promoting clean energy usage. It has contributed to improved health outcomes and reduced respiratory diseases in rural India.

WHY IN NEWS?

PM Ujjwala Yojana is credited as a key initiative behind India's reduction in extreme poverty by improving access to clean cooking fuel for millions of poor households.



PM-ABHIM Mission

The **Prime Minister-Ayushman Bharat Health Infrastructure Mission (PM-ABHIM)** focuses on strengthening health infrastructure across India, especially in Aspirational Districts, remote, tribal, and border areas. It aims to enhance primary, tertiary, and specialized healthcare at Block, District, and State levels. The mission promotes equitable access to quality healthcare for marginalized and underserved populations. It supports the development of facilities, medical equipment, and human resources to bridge gaps in health services. PM-ABHIM is part of the broader Ayushman Bharat initiative, launched in 2018, to improve health outcomes and reduce disparities in healthcare availability.

WHY IN NEWS?

Prime Minister Modi urged states to accelerate health infrastructure development under PM-ABHIM, with a focus on equitable access for poor and marginalized communities during the PRAGATI meeting.

PM-Kisan Registration

The **PM-Kisan** scheme provides direct income support of ₹6,000 annually to small and marginal farmers in India. Registration involves verifying land ownership and beneficiary identity to ensure accurate fund transfer. The scheme aims to supplement farmers income to meet agricultural and domestic needs. Despite its scale, many eligible farmers remain unregistered due to documentation issues or lack of awareness. Registration drives like those in jan seva camps help bridge this gap by enabling farmers to enroll and receive timely financial assistance.

WHY IN NEWS?

During the DAJGUA campaigns nine-day push, about 46,000 PM-Kisan registrations were completed among Scheduled Tribe beneficiaries, increasing their access to direct income support.

Prachesta Grading System

The **Prachesta grading system** categorizes States and Union Territories in India based on their educational performance in the Performance Grading Index (PGI). It has multiple levels, including Prachesta-1 (51%-60%), Prachesta-3 (31%-40%), and Uttam-3 (61%-70%) for districts. The grading reflects scores out of 1,000 for States and 600 for districts. The system evaluates domains like learning outcomes, access, infrastructure, equity, governance, and teacher training. It helps in benchmarking and improving educational quality across regions. The grades are updated annually by the Union Ministry of Education.

WHY IN NEWS?

Kerala retained the Prachesta-3 grade in the 2023-24 PGI report but saw a decline in its score, while other States improved or maintained their scores in this grading system.

Pradhan Mantri Annadata Aay Sanrakshan Abhiyan (PM-AASHA)

PM-AASHA is an integrated scheme launched by the Government of India to ensure remunerative prices for farmers. It includes three components – Price Support Scheme



(PSS), Price Deficiency Payment Scheme (PDPS), and Market Intervention Scheme (MIS), supported by the Price Stabilisation Fund (PSF). The scheme aims to protect farmers from price volatility by procuring crops or compensating farmers when market prices fall below MSP. It covers pulses, oilseeds, and copra. Central Nodal Agencies implement the scheme to achieve price stabilization and income security for farmers, promoting agricultural sustainability and reducing dependence on imports.

WHY IN NEWS?

The government announced the continuation of PM-AASHA components for four more years up to 2028–29 to enhance domestic pulse production and support farmers' income.

Pradhan Mantri Fasal Bima Yojana (PMFBY)

PMFBY is a government crop insurance scheme launched in 2016 to provide financial support to farmers suffering crop losses due to natural calamities, pests, and diseases. It covers notified crops in various districts, offering compensation based on yield loss assessments. The scheme promotes risk mitigation and financial resilience for farmers. PMFBY uses technology innovations like CROPIC for automated damage assessment. It is funded partly by the Fund for Innovation and Technology (FIAT), which has an outlay of Rs 825 crore dedicated to tech-driven improvements in crop insurance.

WHY IN NEWS?

PMFBY is integrating the CROPIC project to automate crop damage assessment and compensation, representing digital innovation in agricultural insurance for 2025-26.

Pradhan Mantri Jan Vikas Karyakram

The Pradhan Mantri Jan Vikas Karyakram (PMJVK) is a central government scheme aimed at improving infrastructure and socio-economic conditions in minority-concentrated areas. It supports projects in education, health, skill development, and basic amenities. The program targets enhancing opportunities and quality of life for minority communities. It is implemented through state governments and various agencies, with periodic monitoring by the Ministry of Minority Affairs. The scheme complements other welfare initiatives and promotes inclusive growth.

WHY IN NEWS?

The Minority Affairs Secretary reviewed the status of projects under the Pradhan Mantri Jan Vikas Karyakram in Maharashtra during his visit to assess progress alongside the UMEED portal implementation.

Pradhan Mantri Kaushal Vikas Yojana (PMKVY)

PMKVY is a flagship skill development scheme launched in 2015 by the Government of India to provide industry-relevant skill training to youth. It offers short-term training, recognition of prior learning, and special projects for marginalized groups. PMKVY certification is nationally recognized, aiding employability. The scheme is implemented through Sector Skill Councils aligned with the National Skill Qualification Framework (NSQF). PMKVY has trained millions of candidates across various sectors, emphasizing inclusivity and bridging skill gaps in the labor market. It is a key component in



government efforts for youth empowerment and economic growth.

WHY IN NEWS?

PMKVY certificates will be distributed during the NAVYA program launch, showcasing integration with this established skill development scheme to empower adolescent girls.

Pradhan Mantri Kisan Samman Nidhi (PM-KISAN)

The **PM-KISAN scheme** is a central government initiative launched in 2019 to provide income support to farmers. It offers ₹6,000 per year in three equal installments to eligible landholding farmer families. A farmer family is defined as husband, wife, and minor children owning cultivable land as per official land records. The scheme uses **Aadhaar-linked KYC** and Public Distribution System (PDS) data for beneficiary verification. Duplicate benefits within the same family are disallowed. The scheme is aimed at supplementing farmers' income to meet agricultural and domestic needs.

WHY IN NEWS?

Madhya Pradesh authorities are identifying and disqualifying cases where both husband and wife from the same family receive benefits under PM-KISAN, following SOPs issued by the Ministry of Agriculture in May 2025.

Pradhan Mantri Matsya Sampada Yojana (PMMSY)

The **Pradhan Mantri Matsya Sampada Yojana (PMMSY)** is a Central government initiative launched in 2020 to boost fisheries production, infrastructure, and livelihood opportunities in India's fisheries sector. It aims to increase fish production by 70 lakh tonnes and generate 55 lakh employment opportunities. Funding is shared between the Centre and states, ideally at 60:40, but in Tamil Nadu, the state's share has been 73% due to implementation dynamics. The scheme supports fish farming, cold storage, and value addition, and promotes sustainable and modern fishing practices to enhance income for fisherfolk.

WHY IN NEWS?

PMMSY is among the schemes where Tamil Nadu's government is contributing more than the Union government, with a 73% share in funding fisheries development projects.

Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA)

Launched in June 2016, PMSMA provides free antenatal care to pregnant women on the 9th of every month, focusing on the second and third trimesters. Over **6.19 crore pregnant women** have been examined under the scheme, especially from rural and underserved areas. It emphasizes early detection and management of high-risk pregnancies (HRPs) to reduce maternal and neonatal mortality. The programme involves more than **6,800 private doctors** volunteering across **20,752 healthcare facilities**. PMSMA contributed to reducing India's Maternal Mortality Ratio from **130 to 80 per 1 lakh live births** between 2014–16 and 2021–23.

WHY IN NEWS?

PMSMA completed nine years, marking progress in maternal healthcare and showcasing its impact on reducing maternal mortality in India under Prime Minister Narendra Modi's government.



PRASAD Scheme

The **Pilgrimage Rejuvenation and Spiritual Augmentation Drive (PRASAD)** is a central government initiative launched in 2015 to develop pilgrimage sites across India. It focuses on infrastructure improvement, waste management, and enhancing tourist amenities. The scheme promotes eco-friendly and sustainable development at religious destinations, aiming to boost tourism and preserve cultural heritage. Projects under PRASAD include sanitation facilities, solid waste treatment plants, and beautification efforts. Funding is provided through the Ministry of Tourism, and implementation often involves coordination with local bodies. PRASAD has been instrumental in modernizing pilgrimage hubs while attempting to balance environmental concerns.

WHY IN NEWS?

The solid-waste incinerator at Gangotri was installed under the PRASAD scheme to manage waste from the annual Char Dham Yatra pilgrimage, sparking debate over environmental compliance.

Prayas Juvenile Aid Centre Society

Prayas Juvenile Aid Centre Society is an NGO focused on child welfare and social rehabilitation. It operates projects related to juvenile justice, education, and skill development. The organization uses a phased approach involving baseline surveys, education, and livelihood training to reintegrate marginalized individuals into society. Prayas secured the highest score among three applicants for implementing the SMILE scheme in Reasi district. It is known for working closely with government bodies and emphasizes evidence-based project planning and community involvement to address social exclusion and support vulnerable populations.

WHY IN NEWS?

Prayas Juvenile Aid Centre Society was selected to implement the SMILE scheme in Reasi district following a competitive evaluation of NGO proposals.

Price Support Scheme (PSS)

The **Price Support Scheme (PSS)** is a government procurement program aimed at ensuring minimum support prices (MSP) to farmers for certain crops when market prices fall below MSP during peak harvest. It primarily targets pulses, oilseeds, and copra. Procurement is carried out by Central Nodal Agencies like NAFED and NCCF. PSS operates under the broader scheme **Pradhan Mantri Annadata Aay Sanrakshan Abhiyan (PM-AASHA)**. The scheme helps stabilize farmers' income by purchasing crops directly from farmers, preventing distress sales and market price crashes. It is activated only when market prices drop below MSP.

WHY IN NEWS?

The Government approved procurement of 54,166 MT of Moong and 50,750 MT of Groundnut under PSS for the 2025–26 summer crop season in multiple states, extending procurement periods to support farmers.



Rabindra Satabarshiki Bhawan

Rabindra Satabarshiki Bhawan is a cultural and convention center located in Agartala, Tripura. Named to commemorate the birth centenary of Rabindranath Tagore, it hosts various official, cultural, and educational events. The venue is for state-level ceremonies and gatherings involving government dignitaries and community stakeholders. It is equipped with modern facilities to support conferences, exhibitions, and public meetings. The building symbolizes Tripuras commitment to cultural heritage and education, often serving as a hub for initiatives promoting social development and literacy.

WHY IN NEWS?

The official declaration of Tripuras full literacy status under the ULLAS scheme was held at Rabindra Satabarshiki Bhawan in Agartala.

Rashtriya Gram Swaraj Abhiyan (RGSA)

The **Rashtriya Gram Swaraj Abhiyan (RGSA)** is a centrally sponsored scheme launched by the Ministry of Panchayati Raj in India to strengthen Panchayati Raj Institutions (PRIs). It focuses on capacity building, empowerment, and financial autonomy of Gram Panchayats. RGSA promotes decentralized governance through training, infrastructure support, and digital initiatives. The scheme encourages Gram Panchayats to generate their Own Source Revenue (OSR) and implement sustainable development plans. It also supports the institutionalization of Panchayat-level revenue planning and encourages community participation in local governance. RGSA emphasizes transparency, accountability, and innovation in rural administration.

WHY IN NEWS?

RGSA is in the news as the Ministry of Panchayati Raj launched a Training of Trainers (ToT) programme under this scheme to enhance Panchayats' financial autonomy through OSR capacity building.

Rashtriya Vayoshri Yojana

The **Rashtriya Vayoshri Yojana (RVY)** is a government scheme launched in 2017 aimed at providing assisted living devices to senior citizens belonging to the **Below Poverty Line (BPL)** category suffering from age-related disabilities such as **osteoarthritis, low vision, and hearing impairment**. Devices provided include walking sticks, wheelchairs, hearing aids, and spectacles. Over five lakh beneficiaries have received free devices under this scheme. The program is implemented through **NGOs and government hospitals**, ensuring accessibility in rural and urban areas. Follow-up services are also part of the scheme to maintain device usability and beneficiary satisfaction.

WHY IN NEWS?

The Rashtriya Vayoshri Yojanas progress was reviewed during the June 4, 2025, National Council for Senior Citizens meeting as part of discussions on improving senior citizens welfare.

Replacement-Level Fertility

Replacement-level fertility is the total fertility rate (TFR) at which a population exactly



replaces itself from one generation to the next, without migration. It is typically defined as 2.1 births per woman in developed countries, accounting for mortality rates. This number is higher in countries with higher child mortality. Replacement fertility ensures population stability. India's current TFR is approximately 2.0, close to replacement level, but regional variations exist. The concept is crucial for demographic studies and policy-making, as fertility below replacement leads to population decline, while above replacement leads to growth. It does not account for migration effects.

WHY IN NEWS?

The UNFPA 2025 report marks India reaching replacement-level fertility of 2.0, but also notes persistent barriers preventing many from achieving their reproductive goals, emphasizing the demographic duality across states.

Scheduled Tribes

Scheduled Tribes (STs) are officially designated indigenous peoples in India recognized in the Constitution. They represent around 8.6% of India's population and are often economically and socially marginalized. Many ST communities live in forested or remote areas, maintaining distinct cultures and languages. They have special protections under Indian law, including reserved seats in government bodies and educational institutions. The prevalence of sickle cell disease is notably higher among certain tribal groups due to genetic factors and limited healthcare access. Tribal populations face compounded health challenges due to poverty, geographic isolation, and inadequate medical infrastructure.

WHY IN NEWS?

Scheduled Tribes in India are brought into light due to their disproportionate burden of sickle cell disease, emphasizing the need for targeted healthcare and equity-focused interventions during World Sickle Cell Day 2025.

SDRF (State Disaster Response Force)

The **State Disaster Response Force (SDRF)** is a specialized unit in state of India trained for rapid response to natural and man-made disasters. Established post-2005 after the Gujarat earthquake, SDRF teams are equipped for rescue, relief, and rehabilitation during floods, earthquakes, and accidents. They often include divers, medical personnel, and engineers. SDRF units operate under the state governments disaster management authority and coordinate with the National Disaster Response Force (NDRF). Their training involves swift water rescue, collapsed structure extrication, and first aid. The SDRF played an important role in the ongoing rescue operation during the Tonk river drowning incident.

WHY IN NEWS?

The SDRF was deployed with additional divers to assist in the rescue and recovery efforts following the drowning of eight men in the Banas River in Tonk.

Self-Employed Womens Association (SEWA)

The Self-Employed Womens Association (SEWA) is an Indian trade union founded in 1972 focused on empowering women in the informal sector. SEWA promotes self-reliance through training, microfinance, and grassroots organizing. It has extended its model to



Africa via women-to-women empowerment initiatives, adapting rural Indian strategies to African contexts. SEWA supports community-based agricultural development by enhancing skills in farming, processing, and entrepreneurship. Its programs improve resilience, income security, and social inclusion among rural women. SEWAs international collaborations include partnerships with NGOs and governments to scale women-led agricultural innovations.

WHY IN NEWS?

SEWA is recognized for deepening India-Africa engagement by transferring grassroots knowledge and empowering African women in agriculture and rural development.

Self-Help Groups (SHGs)

Self-Help Groups (SHGs) are small voluntary associations of rural individuals, primarily women, who pool savings and provide mutual financial support. SHGs facilitate access to credit, promote financial literacy, and encourage income-generating activities. They play a vital role in rural Indias microfinance ecosystem by enabling members to obtain loans collectively or individually. SHGs often collaborate with banks and government schemes to improve credit outreach. The Grameen Credit Score framework specifically targets SHG members to enhance credit assessment tailored to their unique financial behavior and repayment patterns.

WHY IN NEWS?

SHGs are central to the new Grameen Credit Score initiative, which aims to improve credit evaluation and financial inclusion for rural self-help group members.

Service Availability and Readiness Assessment (SARA)

The **Service Availability and Readiness Assessment (SARA)** is a standardized tool developed by the World Health Organization to evaluate health facility capacity. It assesses availability of essential services, equipment, medicines, diagnostics, and trained staff. SARA provides quantitative readiness scores to identify gaps in healthcare delivery. It is widely used globally to monitor health system performance and guide resource allocation. The tool covers domains like basic amenities, infection control, diagnostics, and management protocols. SARA data aids governments and policymakers to improve service quality and accessibility, especially in resource-limited settings. It is periodically updated to reflect evolving health priorities.

WHY IN NEWS?

The study on diabetes and hypertension care readiness in India used WHO's SARA manual to calculate readiness scores of health facilities.

Seva Se Seekhen Campaign

Seva Se Seekhen (Learn by Doing) is a national campaign launched by the Ministry of Youth Affairs and Sports in 2025 to promote experiential learning among youth volunteers. It emphasizes practical engagement in community service projects, combining skill development with social responsibility. The campaign operates through partnerships with government departments and youth organizations, offering short-term immersive



programs. It aims to build employability skills, discipline, and civic values by embedding volunteers in real-world operational environments. Seva Se Seekhen also supports the governments broader goals of youth empowerment and inclusive development through hands-on learning.

WHY IN NEWS?

The campaign was launched alongside the Jan Aushadhi Kendra Experiential Learning Program to enhance youth involvement in healthcare and community service sectors.

Sex Ratio at Birth

The **sex ratio at birth** refers to the number of male births per 100 female births. The natural biological average is approximately 105 males to 100 females. Deviations from this ratio often indicate gender-selective practices or cultural preferences. In India, the sex ratio at birth has historically been skewed due to sex-selective abortions and societal biases favoring male children. Improvement in this ratio suggests progress in reducing gender discrimination. The Global Gender Gap Report uses this metric as part of the Health and Survival dimension to assess gender parity in population demographics.

WHY IN NEWS?

The 2025 report noted improved parity in India's sex ratio at birth, contributing positively to the Health and Survival subindex despite overall life expectancy declines.

Shri Mata Vaishno Devi Temple

Shri Mata Vaishno Devi Temple, located in Reasi district, Jammu and Kashmir, is one of the most revered Hindu pilgrimage sites in India. Situated at an altitude of about 1,584 meters in the Trikuta Mountains, it attracts over 10 million visitors annually. The temple is dedicated to Goddess Vaishno Devi, a manifestation of the Hindu Mother Goddess Durga. Pilgrims undertake a trek of approximately 12 kilometers from the base camp to the shrine. The temple trust manages extensive facilities including healthcare, accommodation, and security for pilgrims. It also plays role in the local economy and cultural identity.

WHY IN NEWS?

The Shri Mata Vaishno Devi Temple is one of the locations identified for the implementation of the SMILE scheme in Reasi district.

Skill India Initiative

Launched in 2015, **Skill India** is a government campaign aimed at training over 400 million people in various skills by 2022 to enhance employability. It includes multiple schemes like Pradhan Mantri Kaushal Vikas Yojana (PMKVY) and National Skill Development Mission. The initiative collaborates with industries for sector-specific training and certification. It targets youth, women, and marginalized communities to reduce unemployment and boost economic growth. Skill India also promotes entrepreneurship and innovation through skill development. The program is monitored via digital platforms to track progress and ensure quality standards in training centers.

WHY IN NEWS?

The Jan Man Survey seeks public feedback on the impact of Skill India, reflecting its



ongoing significance in government policy after 11 years of Modis administration.

Special Services Agreement (SSA) Staff

The **Special Services Agreement (SSA)** is a contractual arrangement used by international organizations like WHO to employ technical and medical staff on a temporary or project basis. SSA staff typically do not have permanent government employment status and may lack job security and benefits. In Indias polio surveillance context, SSA staff work in NPSN units conducting field surveillance, data collection, and coordination. Their employment depends on project funding and government support. Transition plans affecting NPSN units raise concerns about SSA staffs future, as reductions in units may lead to job losses or contract non-renewals, impacting program continuity.

WHY IN NEWS?

The proposed phased winding down of NPSN units has created uncertainty among SSA staff regarding job security and future employment.

Surakshit Matritva Aashwasan (SUMAN)

SUMAN guarantees respectful and quality maternity care services through **90,015 health facilities** across India. It ensures free and dignified treatment for pregnant women and newborns, focusing on respectful maternity care standards. The scheme complements other maternal health programmes by addressing quality and equity in maternity services, reducing discrimination and neglect during childbirth. SUMAN is integrated within the broader framework of maternal and child health initiatives under the Ministry of Health and Family Welfare.

WHY IN NEWS?

SUMAN is brought into light as a key complementary scheme ensuring quality maternity care alongside PMSMA and other maternal health initiatives in Indias healthcare transformation.

Survey of Villages and Mapping with Improvised Technology in Village Areas (SVAMITVA)

The **SVAMITVA scheme**, launched in 2020, uses drone technology to map residential land parcels in over 6 lakh Indian villages. It provides rural property owners with official legal ownership documents known as property cards. These cards enable villagers to access formal credit by proving ownership, reducing land disputes, and promoting development. The scheme is implemented by the Ministry of Panchayati Raj and aims to unlock rural economic potential, with Prime Minister Modi estimating it could generate economic activity worth over ₹100 trillion. Nearly half of the villages have been surveyed by drones as part of this initiative.

WHY IN NEWS?

SVAMITVA is brought into light as a key enabler for credit demand growth in rural India, linked with the launch of the Grameen Credit Score and rural financial inclusion efforts.

UDAN Scheme

The **UDAN (Ude Desh ka Aam Naagrik)** scheme launched in 2016 aims to enhance



regional connectivity by making air travel affordable and widespread. It subsidizes flights to underserved and unserved airports, promoting inclusive growth. Over **15 million passengers** have benefited, many flying for the first time. The scheme involves **viability gap funding** to airlines, incentivizing routes that may not be commercially viable otherwise. UDAN has helped increase India's domestic airport network and stimulated economic development in remote areas. It also encourages the use of smaller aircraft and new routes, contributing to the rapid expansion of the domestic aviation market.

WHY IN NEWS?

Prime Minister Modi brought into light UDAN as a “golden chapter” in India's civil aviation history during IATA's 81st AGM, noting its role in expanding affordable air travel and supporting India's emergence as the third-largest domestic aviation market.

ULLAS Programme

The **ULLAS - Nav Bharat Saaksharta Karyakram** is a centrally sponsored adult literacy scheme launched in 2022 and running until 2027. It targets individuals aged 15 and above who missed formal schooling, focusing on foundational literacy, numeracy, and critical life skills. ULLAS employs community mobilization, door-to-door surveys, and a dedicated mobile app for digital learning and certification. It aligns with the National Education Policy 2020 and promotes lifelong learning. The programme emphasizes volunteer teachers, local leaders, and technology to achieve literacy goals nationwide. It represents a mission mode approach to eradicate adult illiteracy in India.

WHY IN NEWS?

Tripura was declared fully literate under the ULLAS programme in June 2025, marking it the third state of India to achieve this milestone after Mizoram and Goa.

UMEED Portal

The UMEED portal is an online platform launched by the Indian Ministry of Minority Affairs to digitally register and manage Waqf properties across India. It aims to create a centralized database for better transparency, accountability, and efficient administration of Waqf assets. The portal mandates uploading details of all registered Waqf properties within six months. It supports statutory compliance and streamlines leasing and management procedures. The system facilitates monitoring, dispute resolution, and revenue enhancement for Waqf Boards. The portal also allows state authorities to provide suggestions for improving its functionality and regulatory framework.

WHY IN NEWS?

The Ministry of Minority Affairs is pushing for the full implementation of the UMEED portal, with recent review meetings held in Maharashtra and Bihar to ensure compliance and gather feedback from state officials.

Women in Cinema Collective (WCC)

The **Women in Cinema Collective (WCC)** is an organization formed in 2017 by women actors, producers, directors, and technicians in the Malayalam film industry. It was created in response to a high-profile abduction and assault case involving a leading actress. The



WCC advocates for gender equality, safety, and fair treatment of women in cinema. It petitioned the Kerala government to initiate an inquiry into sexual harassment and gender discrimination, which led to the formation of the Justice Hema Committee. The collective continues to campaign for systemic reforms and support mechanisms for women in the industry.

WHY IN NEWS?

The WCCs demands and activism were instrumental in the formation of the Justice Hema Committee and the subsequent release of its report on sexual harassment in the Malayalam film industry.

Women Special Entry Scheme (WSES)

The **Women Special Entry Scheme (WSES)** was introduced in 1992 by the Indian Army to induct women officers in select non-combat streams such as the Army Education Corps, Corps of Signals, Intelligence Corps, and Corps of Engineers. It allowed women to join as **Short Service Commission (SSC)** officers, but did not grant permanent commissions or command roles. The scheme marked the first formal entry point for women into non-medical branches of the Indian Army. Women under WSES served limited tenure and were excluded from command appointments until later policy changes expanded their roles.

WHY IN NEWS?

WSES is mentioned as the initial pathway for womens entry into the Indian Armys non-combat roles, preceding recent policy shifts allowing women permanent commissions and command roles.

Women Voter Demographics

Womens voter turnout in India has increased since independence. In 1952, 28 lakh women were excluded from voting due to being listed only as relatives, not by name. The gender gap in voter turnout declined from 17 percentage points in 1962 to less than two points in 2014. In recent elections, women voters have outnumbered men, partly due to male migration for work. Political parties now target women voters with welfare schemes like free bicycles and monthly allowances. Despite high turnout, womens representation as candidates remains low, averaging 8-9% in recognized parties.

WHY IN NEWS?

Rising women voter numbers have not translated into increased womens representation in elected offices, denoting a disconnect between voter demographics and candidate selection.

Defence

Andaman & Nicobar Command (ANC)

The **Andaman & Nicobar Command** is India's first and only joint services operational command, integrating the Army, Navy, Air Force, and Coast Guard. It is headquartered at **Sri Vijaya Puram** and is responsible for safeguarding India's interests in the strategically vital Indian Ocean Region. Established in 2001, ANC is unique for its tri-service structure, enhancing interoperability. It oversees the defense of the Andaman and Nicobar Islands, a



critical maritime chokepoint near the Malacca Strait. Its strategic location allows India to monitor and secure vital sea lanes and project power in the Indo-Pacific region.

WHY IN NEWS?

Lt Gen Dinesh Singh Rana took charge as the 18th Commander-in-Chief of the Andaman & Nicobar Command on June 1, 2025, denoting the command's ongoing strategic importance.

Anti-Submarine Warfare Shallow Water Craft (ASW-SWC)

The ASW-SWC class is a series of warships designed specifically for anti-submarine operations in shallow coastal waters. These vessels are equipped with advanced sonar, torpedoes, and depth charges to detect and neutralize underwater threats. They emphasize stealth, speed, and maneuverability, tailored for littoral zones where larger submarines and ships have limited access. The ASW-SWC ships incorporate over 80% indigenous content and integrate cutting-edge systems from Indian defence firms. Their design supports multi-role operations, including subsurface surveillance, search and rescue, and low-intensity maritime engagements. Sixteen ships are planned for induction, enhancing India's coastal defence capabilities.

WHY IN NEWS?

The Indian Navy is commissioning 'Arnala,' the first warship of the ASW-SWC series, marking a major step in indigenous anti-submarine warfare capabilities.

Arunachal Scouts

The Arunachal Scouts are a specialized infantry battalion of the Indian Army raised in 2010, primarily recruited from the Arunachal Pradesh region. They specialize in **mountain warfare and high-altitude operations**. The unit is adept at **terrain-specific counter-insurgency and reconnaissance missions**. They play an important role in India's northeastern border security, especially along the Indo-China frontier. The Scouts are known for their local knowledge and acclimatization to harsh climates. They have participated in multiple joint exercises and peacekeeping missions, enhancing their operational versatility beyond their primary mountainous deployment areas.

WHY IN NEWS?

The Arunachal Scouts formed the core of the Indian contingent in the 2025 Nomadic Elephant exercise, bringing expertise in mountain warfare to joint drills with Mongolia.

Auger Shell Symbolism

The auger shell is a marine gastropod known for its elongated, spiraled shell with a reinforced structure and a sharp precision tip. Its morphology provides resilience and protection against predators and harsh ocean environments. The shell's spiral design is associated with strength, vigilance, and survival in challenging conditions. In naval symbolism, the auger shell represents endurance, precision, and dominance in maritime operations. The Indian Navy's Arnala warship features a stylized auger shell on its crest, signifying the ship's capability to operate effectively in anti-submarine warfare and its resilience against oceanic forces.



WHY IN NEWS?

The crest of the newly commissioned Arnala warship features a stylized auger shell, symbolizing the vessels resilience and precision in anti-submarine warfare operations.

Bharat Dynamics Limited (BDL)

Bharat Dynamics Limited (BDL) is an Indian public sector enterprise specializing in the production of missile systems and allied defense equipment. Established in 1970, BDL plays a key role in Indias missile manufacturing ecosystem, including the production of anti-tank guided missiles, surface-to-air missiles, and torpedoes. BDL is involved in technology transfer projects and indigenous development under the Aatmanirbhar Bharat initiative, promoting self-reliance in defense manufacturing. It collaborates with foreign defense firms for local production and integrates advanced missile systems into the Indian Armed Forces, contributing to Indias strategic deterrence and defense modernization.

WHY IN NEWS?

BDL will collaborate with Rafael Advanced Defence Systems for local production of the IceBreaker missile in India, supporting the governments push for indigenous defense manufacturing.

Blackout Rehearsals

Blackout rehearsals are emergency preparedness exercises simulating the sudden loss of electricity in urban and strategic areas. These drills test the readiness of civil defence, emergency services, and local authorities to manage power outages during wartime or disaster scenarios. Blackout rehearsals involve turning off electricity in government buildings, commercial areas, and residential zones for a set time to evaluate communication, coordination, and response systems. Such drills help identify vulnerabilities in power infrastructure and improve public awareness about blackout protocols. They are often combined with other emergency simulations like air raid warnings and rescue operations.

WHY IN NEWS?

Recently, blackout rehearsals were conducted in Punjab, Haryana, Chandigarh, and Kashmir as part of Operation Shield to simulate wartime emergency conditions and test response mechanisms.

Chabua Airbase

Chabua Airbase is an Indian Air Force station located near Dibrugarh in Assam. Established during World War II, it was part of the Allied supply route known as the "Hump," flying over the Himalayas to supply Chinese forces. The base plays a strategic role in northeastern India, supporting operations in difficult terrain and disaster relief missions. It houses various aircraft, including Mi-17 helicopters used for rescue and transport. Chabua Airbase also provides logistical support for counter-insurgency operations and humanitarian aid in the region.

WHY IN NEWS?

The Chabua Airbase deployed an Mi-17 helicopter for the rescue of 14 stranded



individuals on a flooded island in Arunachal Pradesh.

Cluster Bomb

A **cluster bomb** is an explosive weapon that disperses multiple smaller bombs called submunitions over a wide area. It opens mid-air, scattering these submunitions, which are not guided and fall freely to the ground. Many submunitions fail to detonate on impact, becoming **unexploded ordnance (UXO)**, posing long-term risks to civilians. Cluster bombs were first widely used in World War II and have been banned or restricted by over 100 countries under the Convention on Cluster Munitions (2008), though some nations, including Iran and Israel, have not signed it. They are controversial due to their indiscriminate impact and lasting danger.

WHY IN NEWS?

Iran fired a missile containing cluster bomb submunitions towards Israel on June 19, marking the first reported use of cluster bombs in the current conflict, raising concerns about civilian safety and unexploded ordnance.

Dual-Capable Missiles

Dual-capable missiles can be equipped with either conventional or nuclear warheads, allowing flexible use depending on strategic needs. Countries like Russia, China, Pakistan, and North Korea deploy such missiles. These missiles complicate adversary threat assessments due to uncertainty about the payload. The development of dual-capable missile systems has increased since the mid-2000s, with China developing two MIRV-capable missiles, and India, Pakistan, and North Korea pursuing similar capabilities. Dual-capable missiles enhance deterrence by providing rapid response options and complicating enemy defense planning.

WHY IN NEWS?

The 2025 SIPRI report noted the modernization of dual-capable missile systems among nuclear-armed states, including India and Pakistan, reflecting ongoing strategic developments.

Eastern SwordSunrise Fleet

The Eastern Sword, also known as the Sunrise Fleet, is a strategic naval formation under the Indian Navys Eastern Naval Command. It focuses on safeguarding Indias eastern maritime borders and interests in the Bay of Bengal and the Indo-Pacific region. The fleet comprises a mix of destroyers, frigates, submarines, and support vessels, enhancing maritime security and power projection. It plays important role in joint exercises with allied navies and regional maritime patrols. The fleets home base is Visakhapatnam, often called the City of Destiny due to its strategic naval importance.

WHY IN NEWS?

INS Nilgiri joined the Eastern SwordSunrise Fleet, marking boost to the Eastern Naval Commands operational strength and maritime presence.

Exercise Shakti

Exercise Shakti is a biennial joint military exercise between the armies of India and France,



initiated in 2011. It focuses on enhancing interoperability and cooperation in multi-domain operations, including counter-insurgency and counter-terrorism. The exercise alternates between Indian and French territories, involving complex drills in diverse terrains. It includes infantry, artillery, and mechanized units, emphasizing joint planning and execution. The 8th edition in 2025 is held at La Cavalerie, France. The exercise also encourages strategic ties and mutual understanding between the two militaries beyond conventional warfare scenarios.

WHY IN NEWS?

Exercise Shakti 2025, the 8th edition, is scheduled from June 18 to July 1 at La Cavalerie, France, focusing on multi-domain operations and strengthening India-France military cooperation.

INS Saar 6

The **INS Saar 6** is a class of Israeli missile corvettes designed for multi-mission naval warfare, including air defense, anti-submarine warfare, and surface combat. Each ship is equipped with advanced radar, missile systems like Barak Magen, and electronic warfare capabilities. The Saar 6 class displaces approximately 1,900 tons and measures 90 meters in length. It enhances Israel's naval deterrence and operational reach, particularly in the Mediterranean Sea. The class was developed to address regional threats, including missile and drone attacks, and plays an important role in Israel's layered defense strategy.

WHY IN NEWS?

INS Saar 6 was the platform from which the Barak Magen system was first used in combat to intercept Iranian UAVs amid the 2025 Israel-Iran conflict escalation.

INS Tabar

INS Tabar is a **stealth guided-missile frigate** of the Indian Navy, commissioned in 2004. It belongs to the Talwar-class, which is based on the Russian Krivak III-class frigates. The ship features **advanced stealth technology** that reduces radar cross-section and infrared signature. It is equipped with Klub-N cruise missiles, BrahMos supersonic missiles, and an array of anti-submarine and anti-aircraft weapons. INS Tabar has participated in multiple international naval exercises and missions, including anti-piracy operations. It has a displacement of approximately 4,000 tons and a top speed of 30 knots, powered by gas turbine engines.

WHY IN NEWS?

INS Tabar participated in a joint Passage Exercise (PASSEX) with the UK Carrier Strike Group in the North Arabian Sea in June 2025, emphasizing India-UK naval cooperation.

Integrated Defence Staff Headquarters

The **Integrated Defence Staff (IDS) Headquarters** was established in **2001** to promote jointness among the Indian Army, Navy, and Air Force. It assists the Chief of Defence Staff (CDS) in tri-service coordination, planning, and operations. IDS manages integrated training, intelligence sharing, and capability development. It also oversees agencies like the Defence Cyber Agency. The headquarters is located in New Delhi and serves as the



nodal point for joint military strategy and operations, aiming to enhance interoperability among the three services.

WHY IN NEWS?

The Integrated Defence Staff Headquarters is the organizing authority behind the Cyber Suraksha cybersecurity exercise launched by the Defence Cyber Agency in June 2025.

Integrated Drone Detection and Interdiction Systems (IDDIS)

Integrated Drone Detection and Interdiction Systems (IDDIS) combine radar, radio frequency sensors, and electro-optical devices to detect, track, and neutralize hostile drones. These systems can operate autonomously or be integrated with existing air defense networks. IDDIS employs jamming, spoofing, and kinetic interception methods to disable drones. They are crucial for protecting military bases and sensitive areas from unmanned aerial threats. The technology is rapidly evolving to counter swarming drone tactics and stealth designs. India's indigenous IDDIS development focuses on enhancing situational awareness and force protection in counter-terrorism and low-intensity conflict zones.

WHY IN NEWS?

IDDIS is among the key equipment procured under the recent Emergency Procurement contracts to strengthen Indian Army's operational readiness in counter-terrorism environments.

Jammu and Kashmir Rifles

The Jammu and Kashmir Rifles is an infantry regiment of the Indian Army with origins dating back to 1821, originally known as the Jammu and Kashmir State Forces. It was integrated into the Indian Army in 1957. The regiment is primarily composed of soldiers from the Jammu and Kashmir region and has a distinguished combat record in conflicts such as the Indo-Pak wars and counter-insurgency operations. Known for its expertise in mountain and high-altitude warfare, the regiment has received numerous gallantry awards. It maintains traditions linked to the princely state era, including unique regimental insignia and battle honors.

WHY IN NEWS?

A battalion from the Jammu and Kashmir Rifles forms the Indian contingent participating in the eighth edition of the India-France joint military exercise Shakti in June 2025.

Judge Advocate General Department

The **Judge Advocate General (JAG) Department** is the legal branch of the Indian Armed Forces responsible for military justice and legal affairs. Women officers became eligible for Permanent Commission (PC) in the JAG department starting in 2008, making it one of the earliest non-medical streams to open permanent roles to women. JAG officers provide legal advice, conduct court-martials, and handle legal matters related to the armed forces. The department plays a critical role in upholding discipline and ensuring lawful conduct within the military.

WHY IN NEWS?

The JAG department is cited as one of the first non-combat streams where women officers



gained eligibility for permanent commission, a milestone in womens military careers.

K-6 Hypersonic Missile

The **K-6** is a submarine-launched ballistic missile (SLBM) developed by Indias DRDO, capable of reaching speeds up to **7.5 Mach (approx. 9,261 km/h)**. It can carry both conventional and nuclear warheads, enhancing Indias strategic naval deterrence. The missiles range and speed enable it to strike targets with minimal warning. It is designed to be launched from submarines, increasing survivability and second-strike capability. The K-6 is expected to surpass the capabilities of the BrahMos cruise missile and position India among global powers with advanced hypersonic naval weapons. Trials are anticipated soon.

WHY IN NEWS?

India is advancing its naval power with the K-6 missile to counter Chinas influence in the Indian Ocean and strengthen its strategic deterrence against regional adversaries.

Offshore Security Coordination Committee (OSCC)

The **Offshore Security Coordination Committee (OSCC)** was established in 1978 to oversee the security of Indias offshore installations. It functions as a multi-agency platform involving the Indian Coast Guard, Navy, Air Force, and various government ministries. The OSCC develops policies, coordinates joint responses, and resolves issues related to the Offshore Defence Area. It plays important role in protecting vital energy infrastructure such as oil rigs and refineries located in maritime zones. The committee meets regularly to assess threats, update security protocols, and enhance inter-agency cooperation to safeguard Indias offshore assets.

WHY IN NEWS?

The OSCC held its **137th meeting** in New Delhi on June 12, 2025, focusing on enhancing the preparedness and joint response mechanisms for offshore security.

Operation Bihali

Operation Bihali is a joint counter-terrorism operation conducted by the Indian Army and Jammu & Kashmir Police in the Bihali area of Basantgarh, Udhampur district. It was launched based on specific intelligence to neutralize terrorist threats in the region. The operation involves coordinated efforts between multiple security agencies and is ongoing as of June 26, 2025. The name "Bihali" refers to the locality where the encounter took place. This operation is part of broader efforts to secure the region ahead of major events like the Amarnath Yatra pilgrimage.

WHY IN NEWS?

Operation Bihali is in progress following an encounter between terrorists and security forces in Udhampur district, Jammu and Kashmir, as part of heightened security measures before the Amarnath Yatra pilgrimage.

Operation Sindoor

Operation Sindoor refers to a covert Indian military operation targeting nuclear-related military infrastructure. It involved precision strikes aimed at disrupting Pakistans nuclear



capabilities. The operation heightened tensions between the two countries and raised concerns about escalation to nuclear conflict. It was reportedly conducted with the intent to degrade Pakistans nuclear deterrent without crossing the threshold into full-scale war. The operation is notable for its use of advanced intelligence and precision strike technology. It is one of the few publicly acknowledged Indian operations directly linked to nuclear deterrence strategy in recent years.

WHY IN NEWS?

Operation Sindoor was mentioned in the 2025 SIPRI report discussing Indias nuclear strategy and the risk of nuclear crisis escalation due to strikes on nuclear military infrastructure.

P-8I Maritime Patrol Aircraft

The P-8I is a variant of the Boeing P-8 Poseidon, specifically customized for the Indian Navy. It is a long-range maritime patrol aircraft designed for anti-submarine warfare (ASW), anti-surface warfare, and intelligence, surveillance, and reconnaissance (ISR) missions. The P-8I is equipped with advanced radar, electronic support measures, and acoustic sensors, along with torpedoes and depth charges. It has a range exceeding 1,200 nautical miles and can operate at altitudes up to 41,000 feet. The aircraft entered service with India in 2013 and has enhanced the Navys maritime domain awareness .

WHY IN NEWS?

The P-8I participated in the June 2025 joint naval exercise with the UK Carrier Strike Group, playing a key role in coordinated anti-submarine and surveillance operations in the North Arabian Sea.

Pokhran Test Range

Pokhran Test Range, located in Rajasthan, is a key military testing facility primarily known for nuclear and missile tests. It has also been used for testing advanced defense technologies including drones like Rudrastra. The range offers a vast, controlled environment suitable for live-fire exercises and experimental weapon trials. Established in the 1970s, Pokhran became globally known after Indias nuclear tests in 1974 and 1998. It continues to serve as a critical site for validating indigenous defense systems, including UAV endurance, range, and payload delivery capabilities, supporting Indias strategic and tactical military advancements.

WHY IN NEWS?

The Rudrastra drone was successfully tested at the Pokhran Test Range, demonstrating its long-range flight and precision strike capabilities.

Project 17A Frigates

Project 17A is an advanced class of stealth frigates developed by India, designed to replace the older Project 17 ships. These frigates feature enhanced stealth, survivability, and firepower, incorporating composite materials and advanced sensors. They are equipped with BrahMos supersonic cruise missiles and anti-submarine warfare capabilities. The design is a collaborative effort between the Indian Navy and Indian



shipyards, primarily Mazagon Dock Shipbuilders Limited and Garden Reach Shipbuilders & Engineers. The project emphasizes indigenous technology, with over 70% of components sourced domestically. The ships have a displacement of around 6,670 tons and a length of 149 meters.

WHY IN NEWS?

INS Nilgiri, the first Project 17A stealth frigate, was commissioned and arrived at Visakhapatnam, joining the Eastern Naval Command to enhance India's naval capabilities on the eastern seaboard.

Project Vishnu

Project Vishnu is a covert initiative by India's Defence Research and Development Organisation (DRDO) focused on developing advanced hypersonic missile technology. It emphasizes **indigenous development** of propulsion systems, materials, and guidance technologies. The project led to the creation of the ET-LDHCM, showcasing breakthroughs in **scramjet engine technology** and heat-resistant materials. It involves collaboration between DRDO and commercial Indian defense companies, including work at the Dr APJ Abdul Kalam Missile Complex in Hyderabad. Project Vishnu aims to enhance India's strategic deterrence and place it among nations mastering hypersonic weapons technology.

WHY IN NEWS?

Project Vishnu is brought into light due to the upcoming test of the ET-LDHCM missile, developed entirely under this program, reflecting India's growing hypersonic capabilities.

Public-Private Partnership in Indian Defence Shipbuilding

The Public-Private Partnership (PPP) model in Indian defence shipbuilding involves collaboration between government-owned shipyards and private sector firms. In the case of the ASW-SWC project, Garden Reach Shipbuilders & Engineers (GRSE), a government shipyard, partnered with L&T Shipbuilders, a private company. This model promotes indigenous manufacturing, technology sharing, and faster project execution. It also engages over 55 MSMEs, boosting local economies and supply chains. PPP in defence shipbuilding aligns with the Aatmanirbhar Bharat initiative, aiming to reduce dependence on foreign suppliers and strengthen India's self-reliance in strategic sectors.

WHY IN NEWS?

The ASW-SWC project, including the Arnala ship, is a flagship example of PPP success in Indian defence manufacturing, showcasing collaboration between GRSE and L&T Shipbuilders.

Rafale Jet

The **Rafale** is a French twin-engine, multirole fighter aircraft developed by Dassault Aviation. Introduced in 2001, it can perform air superiority, interdiction, reconnaissance, and nuclear strike missions. It is capable of carrying the ASMP-A nuclear missile, France's primary air-launched nuclear weapon. The Rafale has advanced avionics, including an active electronically scanned array (AESA) radar and electronic warfare systems. It is



operated by the French Air and Navy forces and has been exported to countries like India, Egypt, and Qatar. The Rafales nuclear role is central to France's deterrence doctrine, enabling flexible and survivable delivery of nuclear warheads.

WHY IN NEWS?

France's nuclear deterrent relies on **Rafale jets** to deliver air-launched cruise missiles, and potential overseas basing would require deploying Rafale units and infrastructure abroad, complicating logistics and command.

Rudrastra Drone

Rudrastra is an indigenous hybrid VTOL (Vertical Takeoff and Landing) drone developed by Solar Aerospace and Defence Limited (SDAL) for the Indian Army. It combines helicopter-like vertical lift with jet-like cruising capabilities, enabling long-distance strikes over 50 km, with a maximum tested range of 170 km and 90 minutes of flight time. Equipped with smart warheads for anti-personnel roles, it can deliver airburst munitions that explode near the ground to damage wide areas. Rudrastra operates autonomously, relaying real-time video and returning without human intervention, enhancing precision strike capability without risking soldiers' lives.

WHY IN NEWS?

The Indian Army successfully tested Rudrastra, marking advancement in indigenous battlefield drone technology designed for deep strike missions and precision targeting across borders.

Sadhna Tunnel

The **Sadhna Tunnel** is a 7-kilometer tunnel under construction on the Kupwara-Karnah road in north Kashmir, costing Rs 3,330 crore. It links Kupwara with Karnah, a tehsil near the Line of Control (LoC). The tunnel will provide **all-weather connectivity** to this border region, which currently faces winter isolation due to heavy snowfall and avalanches. The Sadhna Tunnel is crucial for military logistics and civilian movement in a sensitive frontier zone. Responsibility for the project was recently shifted to the Border Roads Organisation (BRO) from NHIDCL to expedite construction.

WHY IN NEWS?

The Sadhna Tunnel was approved in June 2025 to improve strategic access and security along the LoC, ensuring year-round connectivity for Kupwara and Karnah.

Terminal High Altitude Area Defense (THAAD)

The **Terminal High Altitude Area Defense (THAAD)** system is a U.S. missile defense platform designed to intercept short, medium, and intermediate-range ballistic missiles during their terminal phase. It uses a hit-to-kill approach, destroying incoming missiles by kinetic impact without explosives. THAAD interceptors operate at altitudes up to 150 km and speeds exceeding Mach 8. The system integrates radar, fire control, and interceptor launchers for layered defense. The U.S. produces roughly 50-60 interceptors annually. Each interceptor costs between \$12-15 million. THAAD was initially developed to counter threats from North Korea and Iran and has been deployed in various regions, including



South Korea and the Middle East.

WHY IN NEWS?

THAAD interceptors were heavily utilized by the U.S. during the 12-day Israel-Iran conflict to defend against Iranian missile strikes, depleting 15-20% of the U.S. inventory and prompting restocking efforts.

Tushil-class Frigates

The Tushil-class frigates are an Indian designation for a series of warships built domestically with Russian design assistance, derived from the Krivak-class lineage. These frigates incorporate indigenous technology and weapons, including the BrahMos cruise missile. They are constructed at Goa Shipyard Limited under Indias Make in India initiative. The class emphasizes commonality in equipment and sensors with earlier Russian-built frigates to streamline maintenance and training. The Tushil-class ships feature enhanced stealth, improved stability, and modern electronic warfare systems, marking a transition toward self-reliance in naval shipbuilding for India.

WHY IN NEWS?

India is building two Tushil-class frigates domestically with Russian technology transfer, complementing the INS Tamal induction and expanding indigenous naval capabilities.

Uranium Hexafluoride (UF₆)

Uranium hexafluoride (UF₆) is a chemical compound used in the uranium enrichment process. It is a volatile solid that sublimates at 56.5°C, turning directly from solid to gas. UF₆ is essential because it allows uranium isotopes to be separated by gas centrifuges due to differences in mass. It is highly reactive with water and moisture, forming corrosive hydrofluoric acid upon contact. UF₆ is stored in specially designed cylinders to prevent leaks and contamination. Handling requires strict safety protocols due to its chemical toxicity and radioactivity. UF₆ is a critical material in producing both nuclear fuel and weapons-grade uranium.

WHY IN NEWS?

UF₆ was mentioned as a stored gaseous radioactive substance in Irans nuclear facilities targeted by US and Israeli attacks.

Very Short Range Air Defence Systems (VSHORADS)

Very Short Range Air Defence Systems (VSHORADS) are portable surface-to-air missile systems designed to engage low-altitude aerial threats such as helicopters, drones, and low-flying aircraft. Typically shoulder-fired or mounted on light vehicles, VSHORADS provide rapid response and high mobility for frontline troops. Indian VSHORADS programs emphasize indigenous missile development with advanced seeker technologies and improved lethality. These systems complement longer-range air defense by filling gaps in close-in protection. VSHORADS are critical for countering asymmetric threats in counter-insurgency and counter-terrorism operations, especially in rugged terrains like Jammu and Kashmir.

WHY IN NEWS?

The Indian Army has procured VSHORADS launchers and missiles under the Emergency



Procurement mechanism to enhance close-in air defense capabilities during counter-terrorism operations.

White Knight Corps

The White Knight Corps is a formation of the Indian Army responsible for operations in the Jammu region. It plays role in counter-insurgency and counter-terrorism activities in Jammu and Kashmir. The Corps is known for its rapid deployment capabilities and coordination with local police and paramilitary forces. It frequently uses social media platforms to communicate operational updates. The Corps involvement is critical during high-security periods, such as religious pilgrimages and elections, to maintain law and order and neutralize militant threats.

WHY IN NEWS?

The White Knight Corps issued updates on the ongoing Operation Bihali, a joint anti-terror operation in the Udhampur district ahead of the Amarnath Yatra.