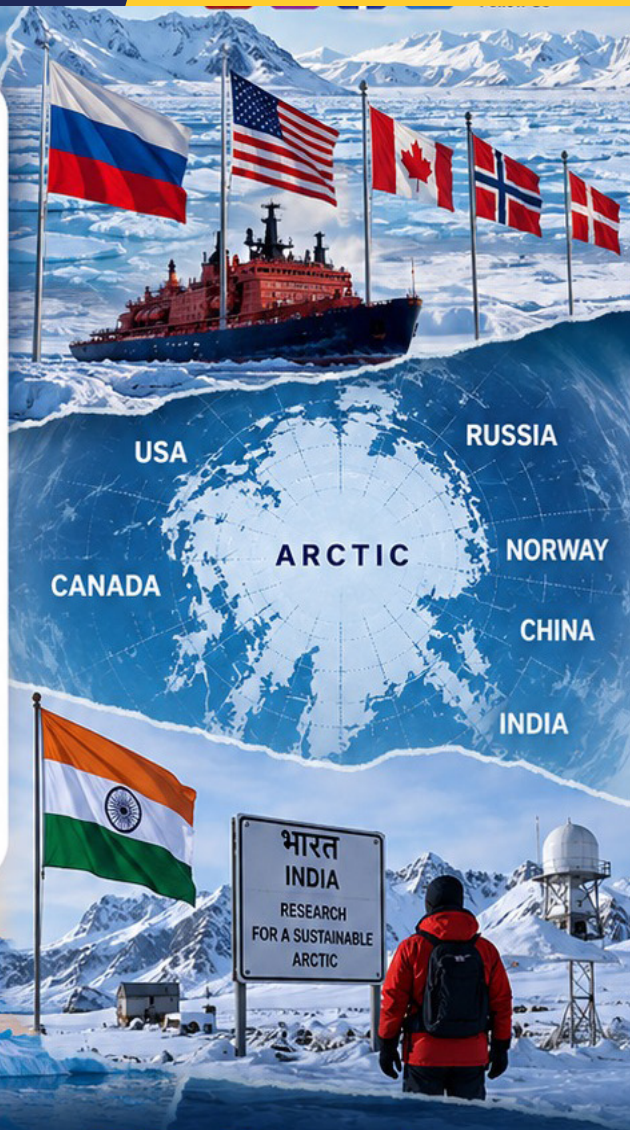




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Message



A civil servant with the right aptitude is the kind of officer the nation expects. Right aptitude does not mean possessing vast knowledge, but having relevant knowledge, a balanced perspective and the ability to implement that knowledge effectively.

When it comes to UPSC or PCS examinations, mere accumulation of knowledge is not enough; its effective expression is equally important. These examinations assess an aspirant's analytical ability, expression skills and balanced understanding of contemporary issues. The process of preparation is not limited to the examination alone; it also inspires individuals to develop a meaningful perspective on important national and social issues. Undoubtedly, this journey is challenging, yet equally inspiring and purposeful.

Perfect 7 magazine has been an integral medium in developing selected civil servants' understanding of current affairs. In accordance with changing examination patterns, syllabus requirements and the nature of contemporary issues, the magazine has continuously refined itself.

I hope that Perfect 7 magazine will remain a perfect companion in your preparation journey and continue to guide you throughout your Civil Services Examination journey.

With Best wishes.

Vinay Singh
Founder
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Indian Society & Art and Culture

Tribal Culture and Traditional Knowledge: Preserving a Living Heritage

Context:

Preserving tribal culture is not merely about safeguarding the past; it is also about carrying diversity, traditional knowledge, and an alternative perspective of coexistence with nature into the future. Every year, World Tribal Day (International Day of the World's Indigenous Peoples) is observed globally on 9 August. The United Nations General Assembly decided in 1994 to observe this day on 9 August.

The theme for 2026, “Honouring Indigenous Midwives: Safeguarding Life and Well-being,” highlights traditional health-related knowledge within tribal communities, the role of women, and the transmission of knowledge from one generation to another. According to the United Nations, Indigenous midwives are not merely women who provide assistance during childbirth; they are also important knowledge holders of language, cultural values, traditional care, and community knowledge.

Nature of Tribal Culture in India:

- India’s tribal culture is extremely diverse. Different tribal communities have their own languages, folk tales, myths, religious beliefs, dances, music, paintings, handicrafts, clothing, jewellery, and knowledge traditions related to nature.
- One of the key characteristics of these cultures is that there is no clear separation between art and everyday life. For example:
 - » Gond paintings contain symbolic

depictions of nature, animals, birds, and folk beliefs.

- » Warli paintings express agriculture, marriage, hunting, and community life through geometric forms.
- » Sohrai and Kohbar painting traditions are associated with nature, agriculture, fertility, and social life.
- » Pithora paintings primarily feature religious and ritualistic expressions.
- » Crafts made from bamboo, cane, wood, metal, clay, and natural fibres are important components of tribal material culture.

Oral Traditions and Cultural Memory:

- A significant part of the cultural heritage of tribal communities has been preserved through oral traditions rather than written texts.
- Folk songs, folk tales, ballads, proverbs, riddles, and ritual narratives are passed from one generation to another. They preserve the history of a community, social relationships, knowledge related to nature, ethical values, religious beliefs, and collective memory.
- Therefore, the decline of a tribal language is not merely a loss of language; it also carries the risk of the disappearance of the community’s cultural memory and traditional knowledge.
- According to the United Nations, around 7,000 languages are spoken across the world,

and Indigenous peoples are custodians of a large share of these languages. Many Indigenous languages are endangered because their use in schools and public life is limited. In this context, 2022–2032 has been declared the International Decade of Indigenous Languages.

Interrelationship between Nature and Culture:

- In tribal cultures, nature is not merely a resource but an integral part of cultural and spiritual life.
- In many communities "Sacred groves, Sacred mountains, Rivers, Flora, Fauna, and Agricultural cycles are associated with religious and cultural beliefs.
- Thus, the conservation of biodiversity is often also linked to cultural traditions. The United Nations also highlights Indigenous peoples as custodians of important ecosystems and cultural heritage.
- This perspective holds particular significance in the contemporary discourse on climate change, biodiversity conservation, and sustainable development.

Major Challenges Facing Tribal Cultural Heritage:

- **Linguistic Decline:** The growing influence of dominant languages in education, employment, and administration is reducing the everyday use of many tribal languages. Along with language, folk songs, narratives, and traditional knowledge may also become weakened.
- **Cultural Assimilation:** Changes in traditional clothing, food, music, dance, and social practices due to modernisation and globalisation are natural. The challenge is to maintain a balance between modernity and cultural identity.
- **Displacement and Disruption of Cultural Landscapes:** Displacement caused by mining, large dams, industrial projects, and other development projects does not result only in economic losses; it can also weaken communities' connections with sacred sites,

collective memory, and traditional living spaces.

- **Commercialisation of Traditional Art:** The expansion of markets for tribal art has created income opportunities for artists, but it has also raised questions related to intellectual property, authenticity, and community consent.
- **Erosion of Traditional Knowledge:** If local knowledge related to medicinal plants, agriculture, weather, food preservation, handicrafts, and natural resource management is not transmitted to younger generations, there is a risk of its permanent loss.



World Tribal Day
(International Day of the World's Indigenous Peoples)
9 August

Context
The United Nations General Assembly decided in 1994 to observe this day globally on 9 August every year.

Celebrating Indigenous Peoples, Their Cultures, Their Rights and Their Future

Theme 2026
"Honouring Indigenous Midwives: Safeguarding Life and Well-being"

The theme highlights traditional health-related knowledge within tribal communities, the role of women, and the transmission of knowledge from one generation to another.

About the Day	Why It Matters	Key Focus Areas
 Observed globally every year on 9 August.  Decided by the United Nations General Assembly in 1994.	 Recognises the contributions of indigenous peoples  Promotes their rights, cultures and traditions  Builds a more inclusive and sustainable future	 Role of women (especially midwives)  Traditional health-related knowledge  Intergenerational transmission of knowledge

India's Efforts for Conservation:

- Various institutional efforts have been undertaken in India for the preservation of tribal culture.
- Through the Tribal Cooperative Marketing Development Federation of India (TRIFED), efforts are made to connect tribal products and handicrafts with markets. Van Dhan Vikas Kendras promote livelihoods based on minor forest produce.

- Eklavya Model Residential Schools (EMRS) seek to provide quality education to tribal students. Through these institutions, greater attention can also be given to the preservation of local languages and culture alongside modern education.
- In addition, Tribal Research Institutes (TRIs) play an important role in documenting tribal history, culture, folklore, and traditions.
- The Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan (PM-JANMAN) primarily aims at the socio-economic development of Particularly Vulnerable Tribal Groups (PVTGs); better access to basic facilities supports the social stability of cultural communities and the continuity of their knowledge traditions.

Way Forward:

- For the preservation of tribal culture, it is not sufficient to merely preserve artefacts in museums. What is needed is a “Living Heritage Approach.”
 - » **Language-based Education:** The use of local/tribal languages in early education should be encouraged.
 - » **Digital Archiving:** Folk songs, folk tales, languages, dances, handicrafts, and traditional knowledge should be digitally documented with the consent of the community.
 - » **Community-centred Conservation:** Tribal communities themselves should

be given a decision-making role in the conservation process.

- » **Geographical Indications (GI) and Intellectual Property Protection:** Effective mechanisms should be established to prevent the unauthorised commercial use of traditional art and handicrafts.
- » **Connecting Artists with Markets:** Markets should be made available through e-commerce and tourism, while ensuring fair remuneration for artists.
- » **Documentation of Women’s Knowledge:** The role of midwives, practitioners of traditional medicine, weavers, and other women knowledge holders should be documented.
- » **Cultural Impact Assessment:** Along with environmental impact, cultural impact should also be given due importance, wherever necessary, in large development projects.

Conclusion:

World Tribal Day should not be viewed merely as a day associated with tribal welfare, but also as an opportunity to preserve the cultural diversity of human civilisation and traditional knowledge systems. Tribal culture is not limited to dance, music, painting, or handicrafts. It also exists in ways of life, health-related knowledge, language, perspectives on nature, and the transmission of knowledge across generations.

Short Issues

Nasha Mukht Yuva for Viksit Bharat Sankalp Abhiyan

Context:

Prime Minister Narendra Modi launched the 'Nasha Mukht Yuva for Viksit Bharat Sankalp Abhiyan' on 2 August 2026, marking the beginning of a 100-week nationwide campaign to build a drug-free India.

Key Features:

- The campaign seeks to create a healthy, mentally resilient, and addiction-free youth population, recognising that the vision of Viksit Bharat @2047 depends on empowered and productive young citizens.
- Originating as a pilot initiative in Kashi, it has evolved into a national movement with the support of over 125 spiritual

organisations and NGOs under the Kashi Declaration.

- Every Sunday for the next 100 weeks will feature awareness drives, sports, cultural programmes, meditation, and community outreach to strengthen public participation.

About India's Anti-Narcotics Strategy:

- India is implementing a time-bound strategy with a zero-tolerance policy to achieve a drug-free India by 2029. The strategy is anchored on the MANAS Portal, the NCORD Vision Document (2026–2029), and Anti-Narcotics Task Forces (ANTFs) across all States and Union Territories.
- According to government estimates, nearly 16 crore people consume alcohol, over 3.1 crore use cannabis, 1.18 crore use sedatives, and 2.26 crore use opioids, with around 28 lakh requiring urgent treatment.
- The MANAS Helpline provides confidential reporting through 1933 and de-addiction counselling through 14446. The Government has also intensified enforcement through nationwide drug disposal campaigns and coordinated action against trafficking networks.

Significance:

- The initiative aims to transform the fight against drug abuse into a Jan Bhagidari (people's movement), similar to the Swachh Bharat and Fit India campaigns.
- It emphasises prevention, rehabilitation, community support, and social acceptance of recovering addicts, while encouraging educational institutions, families, and civil society to actively combat substance abuse.
- The campaign is being implemented through MY Bharat, which has already connected over 2.3 crore youth through volunteering and leadership programmes.

Conclusion:

The Nasha Mukti Yuva for Viksit Bharat Sankalp Abhiyan complements India's broader anti-drug strategy by integrating awareness, rehabilitation, community participation, and

strict law enforcement. Through initiatives such as the NCORD Vision Document, MANAS Portal, and ANTFs, the Government seeks to reduce both the demand and supply of narcotic substances. A sustained whole-of-government and whole-of-society approach is expected to strengthen India's human capital and contribute to the vision of a drug-free and developed India by 2047.

Tamil Nadu Makes Tamil Thai Vazhthu Mandatory at Official Functions

Context:

Recently, The Tamil Nadu Legislative Assembly has unanimously passed a resolution making 'Tamil Thai Vazhthu', the State Song of Tamil Nadu, mandatory at the beginning of official programmes in educational institutions, government offices, PSUs and public institutions.

What is 'Tamil Thai Vazhthu'?

- It is an invocation to Mother Tamil.
- It is derived from the 1891 Tamil work Manonmaniam by Manonmaniam Sundaranar.
- Its rendition at government functions has been a long-standing practice in Tamil Nadu since the 1970s.
- It was officially recognised as the State Song of Tamil Nadu in 2021.
- Thus, the song represents both Tamil linguistic heritage and regional cultural identity.

Ministry of Home Affairs (MHA) Direction:

- The controversy also relates to a 9 July 2026 communication of the Ministry of Home Affairs (MHA) concerning the ceremonial sequence of national and State songs.
- According to reports, where all three are rendered, the sequence is:
 - » State Song → Vande Mataram → Jana Gana Mana

- This is significant because Tamil Nadu's decision to begin official programmes with Tamil Thai Vazhthu broadly corresponds with the reported MHA clarification.



Tamil Nadu Makes Tamil Thai Vazhthu Mandatory at Official Functions

The State Song of Tamil Nadu will now be played at the beginning of official programmes in educational institutions, government offices, PSUs and public institutions.

Context

Recently, The Tamil Nadu Legislative Assembly has unanimously passed a resolution making 'Tamil Thai Vazhthu', the State Song of Tamil Nadu, mandatory at the beginning of official programmes in educational institutions, government offices, PSUs and public institutions.

What is Tamil Thai Vazhthu?

- Tamil Thai Vazhthu is the State Song of Tamil Nadu.
- It was composed in 1909 by M. P. Sivagnanam.
- It praises Tamil language, Tamil culture, and the land of Tamil Nadu.

Composed by M. P. Sivagnanam

Where will it be played?

- Educational institutions
- Government offices
- PSUs
- Public institutions

Tamil Thai Vazhthu will be played at the beginning of all official programmes in these institutions.

Key Highlights

- Passed by** Tamil Nadu Legislative Assembly (unanimously).
- Made mandatory** at the beginning of official programmes.
- Applies to** educational institutions, government offices, PSUs and public institutions.
- Aim** To promote Tamil language, culture and identity.

Significance

- Preserves Tamil Heritage** Keeps the rich cultural and linguistic heritage alive.
- Promotes Unity** Strengthens the emotional bond with Tamil identity.
- Inspires Future Generations** Instills pride in language, culture and values.
- Evokes Tradition in Governance** Brings cultural values into official spaces.

Tamil Language | Tamil Culture | Tamil Nadu

Distribution of Powers

- Article 246 read with the Seventh Schedule establishes the division of legislative powers between the Union and States.
- The issue therefore raises a broader question regarding the autonomy of States in regulating their institutions and cultural practices.

State Song vs National Symbols:

Symbol	Status
Jana Gana Mana	National Anthem
Vande Mataram	National Song
Tamil Thai Vazhthu	State Song

- A State Song cannot be treated as constitutionally equivalent to the National Anthem.
- At the same time, there is no general constitutional rule that prohibits a State from prescribing its own ceremonial protocol for State functions.

Fundamental Rights: Institutional Duty vs Individual Compulsion

- A crucial constitutional distinction is between:
 - Institutional obligation:** An institution is required to begin its programme with Tamil Thai Vazhthu.
 - Individual compulsion:** Every person present is required to sing it.
- The former primarily concerns institutional protocol, whereas the latter could raise questions under:
 - Article 19(1)(a) – Freedom of speech and expression
 - Article 25 – Freedom of conscience and religion
- The Supreme Court's *Bijoe Emmanuel v. State of Kerala* (1986) judgment is relevant. The Court recognised that respect for national symbols does not automatically justify compelled expression where genuine freedom of conscience is involved.
- Thus, mandatory singing at the institutional

Constitutional Dimensions:

- Fundamental Duties – Article 51A(a)**
 - Article 51A(a) requires citizens to respect the National Anthem and National Flag.
 - However, the Constitution does not give a State Song the same constitutional status as the National Anthem.
- State Executive Power – Article 162**
 - Article 162 defines the extent of State executive power. Therefore, prescribing ceremonial practices for State-controlled institutions and functions can generally fall within the State's administrative domain, subject to constitutional and statutory limitations.

level does not necessarily imply that singing is also mandatory at the individual level.

Conclusion:

The Tamil Nadu resolution reflects India's constitutional balance between unity and diversity. The issue is not simply about the order of songs; it concerns the larger relationship between national symbols, State autonomy, cultural identity and individual constitutional freedoms.

Re-Excavation of Vaishya Tekri

Context:

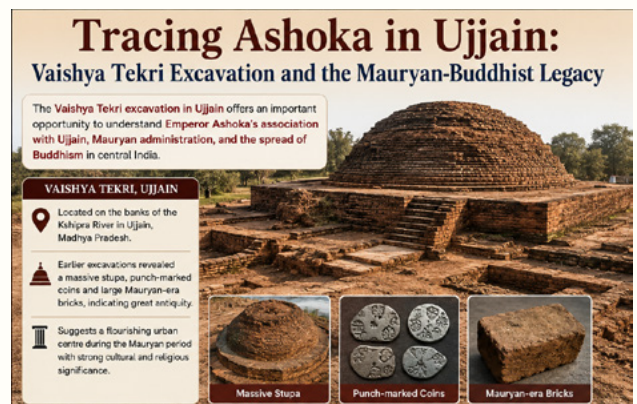
Recently, the Archaeological Survey of India (ASI) and the Madhya Pradesh government have been considering the re-excavation and conservation of the Vaishya Tekri site in Ujjain, Madhya Pradesh. The mound is believed to contain the remains of a massive Buddhist stupa, possibly dating back to the Mauryan period. Nearly 90 years after its first excavation, Vaishya Tekri has once again emerged as a major archaeological focus in Ujjain.

Excavation of Vaishya Tekri:

- The first systematic excavation of Vaishya Tekri was carried out in 1938-39 by the Archaeology Department of the erstwhile Gwalior State.
- The excavation report described a structure approximately 350 feet in diameter and at least 100 feet high. For comparison, the Great Stupa at Sanchi, in its present form, is approximately 54 feet high.
- The mound contained an extremely massive and compact core made of locally available murrum, over which brick masonry had been constructed.
- The discovery of large-sized bricks and coins during the excavation was regarded as evidence suggesting a Mauryan-period association.

Possible Association with Ashoka:

- Ujjain was an important centre of the Mauryan Empire and has traditionally been associated with the early life of Emperor Ashoka. This has led to the theory that Vaishya Tekri could be one of the stupas constructed under Ashoka's patronage and promotion of Buddhism.
- However, no definitive inscription has yet been discovered to establish that the monument was commissioned by Ashoka. Therefore, identifying it as an Ashokan-period stupa remains a plausible but unproven conclusion.



Why is the Re-Excavation Important?

- Fresh excavation at Vaishya Tekri could help establish its precise chronology, original architectural plan, and different phases of construction.
- Archaeologists may also uncover evidence of monasteries, smaller stupas, and other remains associated with Buddhist activities in and around ancient Ujjain.
- If the dimensions recorded in the earlier excavation reports and the proposed Mauryan-period dating are confirmed, the site could make an important contribution to our understanding of Buddhism in central India, Mauryan patronage, and large-scale monumental architecture.

Ashokan-Period Stupas:

- Ashokan-period stupas played an important role in the development of Buddhist architecture in India.

- In the 3rd century BCE, Emperor Ashoka promoted Buddhism and the propagation of Dhamma across his empire. Stupas became important centres for preserving sacred relics and promoting Buddhist traditions.
- Early stupas were generally hemispherical structures made of brick and plaster. Their principal architectural elements included the anda, or dome; harmika; yashti; chhatra; and a pradakshina patha for ritual circumambulation.

Conclusion:

Vaishya Tekri has considerable potential to emerge as an important Buddhist archaeological site. Its reported monumental dimensions make its comparison with the Sanchi Stupa particularly significant. A fresh investigation and excavation nearly nine decades after the original excavation could provide valuable insights into the role of Ujjain in the early history and spread of Buddhism in India.

Ladakh Declares 23 Heritage Sites as Protected Monuments

Context:

Recently, the Ladakh Administration declared 23 heritage sites across the Union Territory as Protected Monuments under the Jammu and Kashmir Ancient Monuments Preservation Act. The sites include petroglyphs, rock carvings, ancient caves, monasteries, forts, palaces and inscriptions.

What are Protected Monuments?

- A protected monument is a site, structure or archaeological remain given legal protection because of its historical, archaeological or artistic importance. Such protection helps prevent encroachment, unauthorised construction and alteration, while enabling scientific conservation and restoration.

About Heritage Sites in Ladakh:

- The notified sites represent different aspects

of Ladakh's cultural history. Important examples include:

- » Petroglyph Site at Sharnos
- » Maitreya Buddha Rock Carving at Shey
- » Tingmosgang Fort
- » Ancient Caves at Saspol
- » Stongday Gonpa
- » Sumoor Fort
- » Rock inscriptions at Yourbaltak in Kargil
- Petroglyphs are rock engravings made by prehistoric or early historic communities, while gompas are Buddhist monasteries commonly found in the Himalayan and Trans-Himalayan region.

About J&K Ancient Monuments Preservation Act:

- The Jammu and Kashmir Ancient Monuments Preservation Act, 1920 A.D. is a regional law for the protection and preservation of ancient monuments, archaeological remains and antiquities in J&K. It originated as Act No. V of Samvat 1977, corresponding to 1920 A.D., and came into force on 4 August 1925.
- The separate framework developed as the Ancient Monuments Preservation Act, 1904 did not initially extend to J&K. The J&K Ancient Monuments Preservation Rules, 2012 later provided detailed operational provisions.
- The Act generally covers monuments that are 100 years or older and empowers the government to declare monuments protected, assume guardianship and enter preservation arrangements with private owners.
- It regulates archaeological excavations, movement and trade of antiquities, and protects sacred sites from misuse and desecration.
- Its implementation is associated with the Directorate of Archives, Archaeology & Museums, J&K, while some monuments are separately protected by the Archaeological Survey of India (ASI) under central legislation.



Ladakh Declares 23 Heritage Sites as Protected Monuments

A step towards conserving Ladakh's rich cultural and historical legacy.

Context

Recently, the Ladakh Administration declared 23 heritage sites across the Union Territory as **Protected Monuments** under the Jammu and Kashmir Ancient Monuments Preservation Act.

Legal Basis

Jammu and Kashmir Ancient Monuments Preservation Act

Provides for the protection, preservation and conservation of ancient monuments and archaeological sites in the Union Territory of Jammu & Kashmir (including Ladakh).

What Do the 23 Sites Include?

The sites include:

 Petroglyphs
  Rock Carvings
  Ancient Caves
  Monasteries
  Forts
  Palaces
  Inscriptions

Key Highlights

- Total Sites**
23 heritage sites across Ladakh
- Coverage**
Spreads across the entire Union Territory of Ladakh
- Legal Protection**
Under the Jammu and Kashmir Ancient Monuments Preservation Act
- Categories**
Petroglyphs, rock carvings, ancient caves, monasteries, forts, palaces and inscriptions

Significance

- Preserves Cultural Heritage**
Safeguards Ladakh's unique historical, artistic and archaeological wealth.
- Boosts Sustainable Tourism**
Helps promote responsible tourism and local livelihoods.
- Research & Education**
Provides valuable resources for scholars, researchers and students.
- Strengthens Regional Identity**
Keeps the rich traditions and history of Ladakh alive for future generations.

Constitutional Framework:

- **Article 49:** Article 49 of the Constitution directs the State to protect monuments, places and objects of artistic or historic interest declared to be of national importance.
- **Article 51A(f):** It makes it a Fundamental Duty of citizens to value and preserve India's rich heritage of composite culture.
- **Seventh Schedule:**
 - » **Union List, Entry 67:** National monuments and archaeological sites.
 - » **State List, Entry 12:** State-controlled monuments.
 - » **Concurrent List, Entry 40:** Archaeological sites and remains other than those declared of national importance.

Significance:

- The notification will help protect Ladakh's

archaeological heritage from encroachment, neglect and natural deterioration.

- These sites provide evidence of ancient trade routes, religious traditions, settlements and cultural exchanges across the Himalayan and Central Asian region.
- It also supports sustainable heritage tourism and strengthens awareness of Ladakh's unique cultural identity.

Conclusion:

The protection of 23 heritage sites strengthens the conservation of Ladakh's archaeological and cultural legacy. It highlights the need to balance development, heritage conservation and sustainable tourism while preserving India's diverse civilisational heritage for future generations.

Mission Samriddh Gaon

Context:

Recently, The Union Minister for Rural Development launched Mission Samriddh Gaon at Krishi Bhawan, New Delhi. The pilot phase will begin in Budni block of Sehore district and Khategaon block of Dewas district in Madhya Pradesh.

What is Mission Samriddh Gaon?

- Mission Samriddh Gaon is an integrated rural transformation and livelihood-saturation framework under the Ministry of Rural Development (MoRD). Its objective is to create self-reliant, poverty-free and economically vibrant villages where every rural household has sustainable livelihood opportunities and access to basic amenities.
- It follows a bottom-up, household-centric approach, with plans prepared at family, Gram Panchayat and block levels. Gram Panchayats are the key focal points for convergence and last-mile delivery.

Key Features:

- **Family-level saturation:** Identifying household needs and linking eligible

families with relevant schemes.

- **Integrated farming:** Combining crops with horticulture, livestock, fisheries, poultry and beekeeping to diversify income.
- **Women farmers:** Promoting credit, advisory services and enterprise opportunities through the broader Lakhpati Didi framework.
- **Infrastructure and value addition:** Developing warehouses, cold chains and village-level processing units to reduce post-harvest losses.
- **Inter-departmental convergence:** Coordinating agriculture, health, education, skill development and rural-development programmes.



Major Schemes Supporting Rural Transformation:

- **Employment & Livelihood**
 - » **VB-G RAM G Act:** Provides up to 125 days of wage employment per financial year to eligible rural households.
 - » **DAY-NRLM:** Has mobilised over 10 crore rural households into Self-Help Groups (SHGs), supporting women's livelihoods and Lakhpati Didis.
 - » **DDU-GKY:** Provides placement-linked skill training to rural poor youth.
- **Infrastructure & Digital Governance**
 - » **PMAY-G:** More than 3.13 crore rural houses have been completed.
 - » **PMGSY:** Provides all-weather road connectivity to eligible rural habitations.
 - » **BharatNet & eGramSwaraj:** Support rural broadband connectivity and digital Panchayat governance, with broadband connectivity extended to over 2.19 lakh

Gram Panchayats.

- **Basic Services & Social Protection**
 - » **Jal Jeevan Mission:** Rural tap-water coverage has crossed 15.91 crore households.
 - » **PMGKAY:** Provides free foodgrains to over 81.35 crore beneficiaries.
 - » **Ayushman Bharat:** More than 45 crore Ayushman Cards have been issued in the rural-health.
 - » **Swachh Bharat Mission-Gramin:** Focuses on sanitation, waste management and sustaining ODF outcomes.
- **Targeted Development**
 - » **PM-JANMAN:** Focuses on essential services for Particularly Vulnerable Tribal Groups (PVTGs).
 - » **PM-AJAY:** Promotes development of SC-dominated villages through Adarsh Gram interventions.

Significance:

- The mission can shift rural development from a scheme-centric to a household- and village-centric model.
- It can improve last-mile delivery, create local employment, promote women's entrepreneurship, diversify farm incomes and reduce distress-driven rural-to-urban migration.
- It also strengthens grassroots planning through Gram Panchayats and supports the broader vision of Viksit Bharat @2047.

Conclusion:

Mission Samriddh Gaon seeks to build self-reliant and economically vibrant villages by integrating welfare delivery with livelihoods, infrastructure and grassroots planning. Its success will depend on effective convergence, empowered Gram Panchayats and active participation of rural communities.

Polity & Governance

Tribunal Reforms Bill, 2026: A Step Towards Judicial Independence and Institutional Reform

Context:

In order to ensure speedy and expert access to justice in India, tribunals have been established from time to time for various fields. They have played a significant role in resolving technical and specialized matters such as taxation, environmental issues, company law, service disputes, debt recovery, and securities. However, issues such as executive influence over appointments, vacancies among members, limited infrastructure, uncertainty regarding tenure, and administrative fragmentation have consistently raised questions about the independence, efficiency, and credibility of these tribunals.

In this context, The Tribunals Reforms Bill, 2026 seeks to establish a more independent, transparent, efficient and professionally managed tribunal system. Its most significant proposal is the creation of a judiciary-led National Tribunals Commission (NTC). The reform is important from a constitutional perspective because it seeks to balance specialised adjudication with judicial independence, separation of powers and judicial review.

Constitutional Basis of Tribunals:

- Tribunals are specialised judicial or quasi-judicial bodies established to provide speedy and expert justice and reduce the burden on regular courts. Their constitutional foundation lies mainly in Articles 323A and 323B, inserted by the 42nd Constitutional

Amendment Act, 1976. However, concerns over executive control, vacancies, tenure, infrastructure and administrative fragmentation have repeatedly raised questions about their independence.

- Article 323A empowers Parliament to establish administrative tribunals dealing primarily with recruitment and conditions of service of government employees. The Central Administrative Tribunal is a major example.
- Article 323B enables the appropriate legislature to establish tribunals for specified matters such as taxation, industrial disputes, foreign exchange, land reforms and other specialised fields.
- Thus, the Constitution recognises tribunals as legitimate institutions of adjudication. However, their powers remain subject to the broader constitutional structure, particularly the principles of judicial review and independence of the judiciary.

Judicial Review and Basic Structure:

- The landmark *L. Chandra Kumar v. Union of India* (1997) judgment established the constitutional limits of tribunalisation. The Supreme Court held that judicial review by High Courts under Articles 226 and 227 and by the Supreme Court under Article 32 is part of the basic structure of the Constitution.
- Consequently, tribunals can supplement but cannot replace constitutional courts.

Their decisions remain subject to judicial review by High Courts.

- This principle ensures that the creation of specialised tribunals does not weaken the constitutional power of courts to protect fundamental rights and uphold constitutional supremacy.

Separation of Powers and Judicial Independence:

- Tribunal reform is closely connected with separation of powers. Although India does not follow a rigid separation of powers, judicial functions must remain institutionally independent from the executive.
- When the executive exercises substantial control over the appointment, tenure, service conditions, finances and administration of tribunal members, concerns regarding impartiality arise, particularly when tribunals adjudicate disputes involving the government itself.
- Therefore, tribunal independence is not merely an administrative issue; it is a constitutional requirement linked to the rule of law and separation of powers.

Key Features of the Tribunal Reforms Bill, 2026:

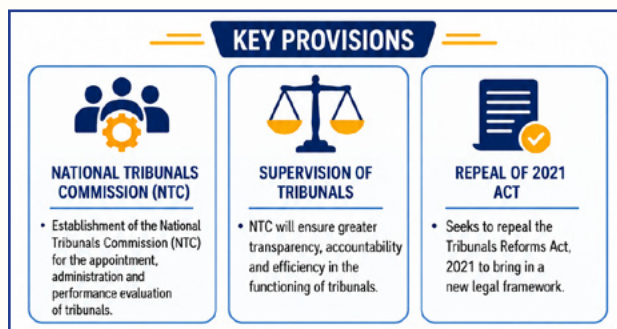
- The Bill proposes to repeal the Tribunals Reforms Act, 2021 and create a common framework for 16 tribunals, appellate tribunals and authorities, including the Central Administrative Tribunal, National Green Tribunal, Securities Appellate Tribunal, Armed Forces Tribunal, NCLAT, DRTs, CESTAT and ITAT.
- Its objectives are to promote uniformity, transparency, independence, efficiency and accountability in tribunal administration.

National Tribunals Commission:

- The proposed National Tribunals Commission is the central innovation of the Bill.
- It will comprise a Chairperson who has been a Supreme Court Judge or Chief Justice of a High Court, two Judicial Members who have been High Court Judges or Chief Justices,

and two Technical Members possessing at least 25 years of experience in areas such as public administration, finance, law, accountancy, banking, management or technology.

- The Central Government will formally appoint the Chairperson and Judicial Members after consulting the Chief Justice of India.
- The judicial majority seeks to reduce executive dominance and strengthen institutional independence.



Functions of the NTC:

- The NTC will conduct selections for tribunal Chairpersons and Members, monitor tribunal performance, oversee inquiries into complaints against members and maintain the National Tribunals Data Grid.
- The Data Grid can facilitate evidence-based monitoring of vacancies, pendency, disposal rates and case status.
- Thus, the Commission seeks to replace fragmented administration with a permanent and coordinated institutional mechanism.

Search-cum-Selection Committees:

- The Bill provides for Search-cum-Selection Committees for appointments.
- For Tribunal Chairpersons, the Committee includes senior judicial representatives, a technical member, a retired Chief Justice, government representation and empanelled experts.
- For Tribunal Members, a Judicial Member of the NTC chairs the Committee.
- The Chairperson has a casting vote, while expert members and the Member Secretary

do not have voting rights. The Committee recommends one suitable candidate for each vacancy and one additional candidate for the waiting list.

- Recommendations are to be communicated within three days, while the Government must make appointments within three months. This seeks to reduce both executive discretion and administrative delay.

Tenure and Security of Office:

- The Bill provides five-year tenure for NTC members, subject to prescribed age limits. Tribunal Members will hold office for five years or until attaining 67 years, whichever is earlier.
- Security of tenure supports judicial independence by protecting members from arbitrary removal or excessive administrative uncertainty.
- However, reappointment must be handled transparently. Excessive dependence on executive discretion for reappointment could potentially undermine independence.

Financial and Administrative Independence:

- The Bill seeks to improve tribunal administration by allowing tribunals to identify requirements relating to funds, staff and premises. The NTC Secretariat will consolidate and assess these requirements.
- The Central Government will continue to provide grants subject to parliamentary appropriation. The Comptroller and Auditor-General (CAG) will audit the Commission's accounts, with the report placed before Parliament.
- This creates a balance between institutional autonomy and democratic accountability.

Significance:

- The reform can strengthen judicial independence, reduce executive discretion, improve professional competence and address vacancies. A common framework can bring uniformity to tribunal administration, while the Data Grid can promote data-driven monitoring.
- It can also improve access to specialised

justice in areas such as taxation, environment, company law, securities, debt recovery and public services.

Challenges:

- The Central Government retains a formal role in appointing NTC members, while the Secretariat is headed by a Government Secretary. This raises questions about the extent of administrative independence.
- Reappointment provisions may also create potential concerns regarding executive influence. Further, institutional restructuring alone cannot solve problems of inadequate staff, infrastructure and technology.
- A balance must also be maintained between judicial expertise and technical expertise.

Way Forward:

- The NTC should receive genuine functional and administrative autonomy. Selection criteria should be transparent and merit-based. A permanent recruitment mechanism should prevent vacancies from accumulating.
- The National Tribunals Data Grid should monitor pendency, disposal rates, vacancies and case age. Adequate infrastructure and trained staff must accompany institutional reform.
- Above all, tribunalisation must remain consistent with the constitutional jurisdiction of High Courts under Articles 226 and 227 and the Supreme Court under Article 32.

Conclusion:

The Tribunal Reforms Bill, 2026 seeks to balance specialised adjudication with judicial independence, separation of powers and accountability through a judiciary-led National Tribunals Commission. Ultimately, tribunals should complement constitutional courts, not replace them. This can ensure speedy, independent and accessible justice.

Short Issues

Registration of Births and Deaths (Amendment) Bill, 2026

Context:

Recently, The parliament has passed the Registration of Births and Deaths (Amendment) Bill, 2026 amid protests by Opposition members over the alleged police crackdown during demonstrations against the anti-paper leak legislation. The Bill seeks to strengthen the legal framework governing the delayed registration of births and deaths by introducing stricter scrutiny for applications filed after a prolonged delay.

Background:

- The Registration of Births and Deaths Act, 1969 provides the statutory framework for the compulsory registration of births and deaths in India. It establishes the Civil Registration System (CRS), which serves as the primary source of vital statistics and legal identity.
- In 2023, the Act was amended to create a national digital database and allow birth certificates to function as a single document for updating records such as Aadhaar, passports, electoral rolls, educational records, and driving licences.

Key Provisions of the Amendment Bill:

- The Bill amends Section 13(3) of the Act by introducing a two-tier approval mechanism for delayed registrations:
 - » **Registration delayed between one and two years:** The existing system remains unchanged. Approval will continue to be granted by the District Magistrate (DM), Sub-Divisional Magistrate (SDM), or Executive Magistrate having jurisdiction.
 - » **Registration delayed beyond two years:** Approval will now require an order from a First-Class Judicial Magistrate, replacing the earlier executive approval

process. This change aims to ensure stricter verification of highly delayed registrations.

Objectives of the Bill:

- Prevent fraudulent or fabricated birth and death certificates.
- Strengthen the integrity and credibility of the Civil Registration System.
- Improve the accuracy of demographic and vital statistics.
- Enhance judicial oversight in cases involving substantial delays.
- Ensure reliable identity records for governance and service delivery.

Significance:

- Birth and death registration is fundamental to establishing an individual's legal identity and enabling access to education, healthcare, social welfare schemes, inheritance rights, pensions, and other public services.
- Accurate civil registration data also supports population estimates, public health planning, disaster management, and evidence-based policymaking.
- The amendment seeks to improve the authenticity of official records and reduce identity-related fraud.

Conclusion:

The Registration of Births and Deaths (Amendment) Bill, 2026 strengthens India's civil registration system by introducing stricter scrutiny of delayed registrations. Its effective implementation, supported by robust digital infrastructure and citizen-friendly procedures, will be crucial for ensuring accurate records and transparent governance.

Cabinet Approves PM-KISAN Scheme Extended Till 2030-31

Context:

Recently, the Union Cabinet approved the continuation of the Pradhan Mantri Kisan

Samman Nidhi (PM-KISAN) Scheme for another five years, from 2026–27 to 2030–31. A financial outlay of Rs.3.15 lakh crore has been allocated for this extension. The decision aims to provide continued income support to eligible farmer families through the Direct Benefit Transfer (DBT) mechanism.

About the PM-KISAN Scheme:

- The PM-KISAN Scheme was launched on 24 February 2019. It is a Central Sector Scheme implemented by the Ministry of Agriculture and Farmers' Welfare.
- Under the scheme, eligible landholding farmer families receive Rs.6,000 per year in three equal installments of Rs.2,000 each, which are directly transferred to their bank accounts through an Aadhaar-enabled Direct Benefit Transfer (DBT) system.
- The scheme is fully funded by the Government of India and aims to supplement farmers' income while encouraging agricultural investment.

Recent Developments:

- The Union Cabinet has extended the PM-KISAN Scheme for the period 2026–27 to 2030–31.
- Since its launch, more than Rs.4.47 lakh crore has been transferred to farmers through 23 installments.
- Under the 23rd installment, Rs.18,984 crore was credited to the bank accounts of more than 9.49 crore farmers.
- During the COVID-19 pandemic, more than Rs.1.71 lakh crore was disbursed under the scheme.
- Women farmers have received over Rs.1.06 lakh crore, and nearly one-fourth of the total beneficiaries are women.

Key Features:

- Provides Rs.6,000 per year as financial assistance to eligible farmer families.
- The amount is paid in three equal installments through the Direct Benefit Transfer (DBT) mechanism.
- It is a 100% Centrally funded scheme.

- Supports expenditure on seeds, fertilizers, agricultural equipment, and other farming requirements.
- Aadhaar-based e-KYC is mandatory for receiving benefits.



Impact:

- According to the Development Monitoring and Evaluation Office (DMEO), NITI Aayog:
 - » More than 92% of beneficiaries used the financial assistance for agricultural activities and farm investments.
 - » Nearly 85% of farmers reported an increase in agricultural income and reduced dependence on informal sources of credit.
- The scheme has also strengthened financial inclusion by ensuring transparent and timely DBT transfers without the involvement of intermediaries.

Challenges:

- The scheme does not cover tenant farmers, sharecroppers, and landless agricultural labourers.
- Inaccurate land records, delays in e-KYC, and the declining real value of the Rs.6,000 assistance due to rising agricultural input costs limit the effectiveness of the scheme.

Conclusion:

The extension of the PM-KISAN Scheme until 2030–31 reflects the Government's commitment to strengthening farmers' livelihoods through direct income support. However, to make

the scheme more inclusive and effective, it is essential to improve land records, include genuine cultivators, ensure seamless DBT delivery, and integrate the scheme with broader agricultural reforms such as irrigation, market access, and climate-resilient farming. These measures will enable PM-KISAN to become a more sustainable and inclusive instrument for rural development and agricultural prosperity.

Supreme Court on Live-in Relationships

Context:

Recently, the Supreme Court, in a significant judgment, clarified that if a relationship between two consenting adults falls within the category of a "relationship in the nature of marriage" and reflects a clear intention to marry, the woman will be entitled to protection against cruelty under Section 498A of the Indian Penal Code (IPC) (now Section 85 of the Bharatiya Nyaya Sanhita, 2023).

Thus, not only legally married women but also women living in certain live-in relationships will be entitled to criminal protection against domestic violence and cruelty. The Court also directed strict implementation of the guidelines laid down in the *Arnesh Kumar v. State of Bihar* case to ensure that no arbitrary arrests are made under this provision without a preliminary inquiry.

Background of the Case:

- In the present case, the accused argued that he was already married and, therefore, his marriage with the complainant was legally invalid. Consequently, he contended that Section 498A could not be invoked against him.
- The Supreme Court rejected this argument, observing that if a man induces a woman into believing that they share a marital relationship and lives with her accordingly, he cannot later escape liability for cruelty merely by relying on the legal invalidity of

the marriage. The Court further held that the impact of cruelty does not depend on whether the victim is legally married or living in a live-in relationship.

Interpretation and Legal Perspective:

- The Supreme Court has adopted a broad and purposive interpretation of the term "husband" used in Section 498A. According to the Court, the primary objective of this provision is to protect women from domestic violence and cruelty while advancing social reform.
- If a man deceives a woman into cohabiting with him on the promise or intention of marriage and subsequently subjects her to cruelty, he should not escape legal responsibility merely because there is no formal marriage certificate or legally valid marriage.
- This judgment further strengthens the legal recognition of live-in relationships in India. Earlier as well, the judiciary had recognized the right of women in live-in relationships to claim maintenance under the Protection of Women from Domestic Violence Act, 2005.
- The Supreme Court has, on several occasions, upheld the right of consenting adults to live together under Article 21 of the Constitution, which guarantees the right to life and personal liberty.

A Significant Step Towards Women's Rights:

- This judgment is regarded as an important milestone in advancing women's rights. It provides legal protection to women who have spent a considerable period in marriage-like relationships and have become economically, socially and emotionally dependent on their partners.
- The ruling also reinforces the constitutional values of women's empowerment, gender justice, and the right to live with dignity.

Challenges:

- Extending broader legal protection to live-in relationships may give rise to disputes regarding the definition and scope of

such relationships, while also increasing concerns over the possibility of false or frivolous cases.

- Therefore, the Supreme Court has directed strict adherence to the guidelines laid down in *Arnesh Kumar v. State of Bihar*, ensuring that neither the accused nor their family members are subjected to arbitrary arrest without a preliminary inquiry.

Conclusion:

The Supreme Court's judgment marks a progressive step towards women's empowerment. It makes it clear that the law cannot deny justice to a woman merely because her relationship lacks the traditional legal recognition of marriage. In matters concerning rights and protection, human dignity and social justice must take precedence over technical legal formalities.

Mines and Minerals (Development and Regulation) Amendment Bill, 2026

Context:

Recently, Parliament has passed the Mines and Minerals (Development and Regulation) Amendment Bill, 2026, marking an important step in India's efforts to expand domestic mineral exploration and strengthen supplies of critical minerals.

Key Provisions of the Bill:

- **Inclusion of Additional Minerals:** The Bill allows holders of mining leases to apply for the inclusion of additional minerals in an existing lease. No additional payment is required for specified critical and strategic minerals, including lithium, graphite, nickel, cobalt, gold and silver, providing greater incentives for their production.
- **Removal of 50% Captive Mining Sales Limit:** The Bill removes the existing 50% ceiling on the sale of minerals from captive mines. After meeting the requirements of the

linked end-use plant, miners can sell their remaining production, subject to applicable payments. This is expected to improve resource utilisation and increase mineral availability in the market.

- **Expansion of Mining Areas:** For deep-seated minerals located more than 200 metres below the surface, the Bill permits a one-time expansion of contiguous mining areas. The expansion can be up to 10% of the existing area for a mining lease and 30% for a composite licence.



PARLIAMENT PASSES

MINES AND MINERALS (DEVELOPMENT AND REGULATION) AMENDMENT BILL, 2026

CONTEXT
Parliament has passed the Mines and Minerals (Development and Regulation) Amendment Bill, 2026, marking an important step in India's efforts to expand domestic mineral exploration and strengthen supplies of critical minerals.

KEY PROVISIONS OF THE BILL

INCLUSION OF ADDITIONAL MINERALS	ENHANCED EXPLORATION FLEXIBILITY	FOCUS ON CRITICAL MINERALS	EASIER DOING OF MINING	SUSTAINABLE AND RESPONSIBLE MINING
Allows inclusion of additional minerals in an existing mining lease.	Provides greater operational flexibility for mineral exploration.	Strengthens the framework to boost availability of critical minerals.	Simplifies processes to promote transparency and ease of doing business.	Reinforces environmental safeguards and responsible mining practices.

GOAL
To unlock India's mineral potential, reduce import dependence, and support Atmanirbhar Bharat.

LITHIUM **RARE EARTH** **COPPER**

- **National Mineral Exploration and Development Trust:** The National Mineral Exploration Trust is being expanded and renamed the National Mineral Exploration and Development Trust. Its mandate covers exploration and development of mines and minerals, including activities in offshore areas and outside India.
- **Mineral Exchanges:** The Centre will have powers to promote mineral exchanges

for trading minerals, concentrates and processed forms. Such exchanges could improve transparency, price discovery and market efficiency.

Focus on Critical Minerals:

- Critical minerals such as lithium, cobalt, nickel and graphite are essential for electric vehicles, batteries, renewable energy, electronics and advanced manufacturing. The reforms aim to reduce import dependence and strengthen India's mineral security.

Importance for India:

- The amendment seeks to make the mining sector more flexible and investment-friendly. Faster exploration and development of domestic mineral resources could support India's clean-energy transition, industrial growth and strategic supply chains.

Challenges Ahead:

- Implementation remains crucial. India will need greater private investment, advanced exploration technology, processing capacity and infrastructure. Questions relating to Centre-state powers over mineral taxation may also require careful resolution.

Conclusion:

The MMDR Amendment Bill, 2026 is a significant reform aimed at transforming India's mineral sector. By encouraging critical-mineral exploration, allowing additional minerals in existing leases, removing the captive-mining sales ceiling, expanding exploration support and enabling mineral exchanges, the Bill seeks to strengthen domestic mineral production and reduce India's dependence on overseas supplies.

Creamy Layer and Sub-Categorisation among SCs/STs

Context:

Recently, The Centre has opposed the demand

to introduce the "creamy layer" principle for Scheduled Castes (SCs) and Scheduled Tribes (STs) in an affidavit before the Supreme Court. The issue arose from a PIL seeking exclusion of socially and economically advanced families from reservation benefits.

What is the Creamy Layer?

- The creamy layer refers to relatively advanced sections within a backward class who are excluded from reservation benefits. The principle was introduced for Other Backward Classes (OBCs) by the Supreme Court in the Indra Sawhney judgment (1992).
- The Court had held that the creamy-layer principle was applicable to OBCs and did not extend it to SCs and STs.

Why Does the Centre Oppose It for SCs/STs?

- The Centre argues that SCs and STs face disadvantages fundamentally different from economic backwardness.
- SCs have historically suffered from untouchability, caste discrimination and social exclusion, while STs face disadvantages arising from geographical isolation, distinct cultures and historical backwardness.
- Therefore, economic advancement alone cannot establish that caste- or community-based disadvantage has disappeared.



Sub-Categorisation of SCs/STs:

- Sub-categorisation means dividing a broad reserved category into smaller groups to ensure equitable distribution of reservation benefits.
- In its 2024 judgment in *State of Punjab v. Davinder Singh*, a seven-judge Constitution Bench permitted sub-classification within SCs/STs, subject to constitutional safeguards and empirical evidence.
- It aims to ensure that relatively underrepresented and more disadvantaged communities do not remain deprived while benefits are concentrated among better-represented groups.

Fraught History of Sub-Categorisation:

- The issue has been controversial because some States have argued that certain SC communities have received a disproportionate share of reservation benefits.
- Critics, however, fear that internal classification could fragment SCs and encourage political manipulation.
- Further, Articles 341 and 342 provide a constitutional mechanism for identifying SCs and STs, with Parliament having the power to alter the notified lists.

Creamy Layer vs Sub-Categorisation:

Creamy Layer	Sub-Categorisation
Excludes advanced individuals/families	Distributes benefits among sub-groups
Focuses on social/economic advancement	Focuses on relative backwardness
Primarily associated with OBCs	Increasingly debated for SCs/STs
Reduces eligible beneficiaries	Reallocates benefits within the category

Arguments For and Against:

- For creamy layer:** It can prevent elite capture, promote inter-generational equity and ensure that reservation reaches the most
- Against:** Caste discrimination may persist despite economic advancement; reservation is not merely an anti-poverty measure; and income cannot fully capture social stigma.

disadvantaged.

Way Forward:

- A balanced approach requires reliable caste and socio-economic data, transparent criteria, periodic review and constitutional safeguards. Economic criteria should not be treated as the sole measure of caste-based disadvantage.

Conclusion:

The debate reflects the larger challenge of achieving substantive equality. The objective should be to ensure that affirmative action reaches those who remain structurally disadvantaged while preserving the constitutional commitment to social justice.

CAA 2019: District Collectors Empowered to Grant Citizenship in 8 States/UTs

Context:

Recently, The Ministry of Home Affairs (MHA), through an order issued on 19 August 2026, has empowered District Collectors in eight States/UTs to process and grant citizenship under the Citizenship Amendment Act (CAA), 2019. The move transfers pending applications from Empowered Committees to district authorities.

States and UTs Covered:

- The order covers Collectors in:
 - » Gujarat
 - » Rajasthan
 - » Punjab
 - » West Bengal
 - » Assam, excluding tribal areas
 - » Tripura, excluding tribal areas
 - » Jammu and Kashmir
 - » Ladakh
- All pending applications before the earlier

Empowered Committees and District Level Committees will be transferred to the concerned Collectors.

What Powers Do Collectors Have?

Under the Citizenship (Third Amendment) Rules, 2026, Collectors can:

- Receive and scrutinise applications.
- Verify documents and conduct necessary enquiries.
- Administer the Oath of Allegiance.
- Determine eligibility under Section 6B of the Citizenship Act, 1955.
- Grant citizenship to eligible applicants found to be fit and proper.
- An application may be rejected if an applicant fails to appear personally for required procedures despite reasonable opportunities.

Background of the CAA:

- The Citizenship Amendment Act, 2019 amended the Citizenship Act, 1955. It provides a special route to citizenship for six non-Muslim communities—Hindus, Sikhs, Buddhists, Jains, Parsis and Christians—from Pakistan, Bangladesh and Afghanistan who entered India on or before 31 December 2014.
- For eligible applicants, the naturalisation residence requirement was reduced from 11 years to 5 years, subject to the prescribed conditions.
- **CAA Rules, 2024:** The CAA Rules were notified on 11 March 2024, establishing the procedure for receiving and processing applications. The latest 2026 amendment changes the administrative mechanism by giving greater authority to District Collectors.

Why is West Bengal Important?

- The decision has particular significance for West Bengal, where the CAA has been politically sensitive. The Matua community, comprising largely Hindu Namasudras with roots in Bangladesh, is among the important

communities expected to benefit.

- The earlier State government had strongly opposed the CAA, while the Union government had constituted Empowered Committees to process applications.

CAA 2019:

District Collectors Empowered to Grant Citizenship in 8 States/UTs



WHY IN NEWS?

On 19 August 2026, the Ministry of Home Affairs (MHA) issued an order empowering District Collectors in **8 States/UTs** to process and grant citizenship under the Citizenship Amendment Act (CAA), 2019.

 Pending applications are being transferred from Empowered Committees to district authorities.

THE ORDER COVERS COLLECTORS IN:

 Gujarat	 Rajasthan	 Punjab	 West Bengal
 Assam (Excluding tribal areas)	 Tripura (Excluding tribal areas)	 Jammu & Kashmir	 Ladakh

Constitutional and Legal Aspects:

- Citizenship is a Union subject under the Constitution. Part II (Articles 5–11) deals with citizenship, while Article 11 empowers Parliament to regulate citizenship through legislation.
- The CAA has also faced criticism and constitutional challenges, particularly concerning Article 14, which guarantees equality before law.

Exempted Areas:

- The CAA does not apply uniformly to certain protected regions, including specified Inner Line Permit areas and Sixth Schedule tribal areas. Assam and Tripura are specifically excluded from the latest order in their tribal

areas.

Conclusion:

The August 2026 MHA order marks a significant shift from centralised committees to district-level administration in implementing the CAA. For UPSC preparation, it is important to connect the development with Articles 5–11, Article 14, federalism, migration and the special safeguards for tribal regions.

Methods of Capital Punishment: Judicial Review

Context:

Recently, in August 2026, a Bench comprising Justice Vikram Nath and Justice Sandeep Mehta of the Supreme Court dismissed a Public Interest Litigation (PIL) seeking to replace hanging as a method of execution on the ground that it is inhumane, with alternatives such as lethal injection. The Court clarified that, based on the available scientific evidence, hanging cannot be conclusively regarded as wholly inhumane. However, it also left the door open for the adoption of better scientific alternatives in the future.

Key Legal and Constitutional Dimensions:

- In Indian jurisprudence, capital punishment and the method of its execution are primarily examined against two constitutional and legal standards:
- **Article 21 and the Right to a Dignified Death:** Article 21 of the Indian Constitution guarantees every citizen the “Right to Life and Personal Liberty.” Through various landmark judgments, including *Gian Kaur v. State of Punjab*, the Supreme Court has established that the right to live with dignity also encompasses the right to dignity in death. The petitioners argued that the excessive pain associated with hanging violates this constitutional guarantee of dignity.
- **Judicial Precedents:** The Supreme Court

referred to its landmark judgment in *Deena v. Union of India* (1983). In that case, the Court held that the modern method of hanging, known as the long-drop method, is swift, causes comparatively less pain, and does not disfigure the body. According to the Court, alternatives such as electrocution or lethal injection have not been shown to have any specific or established advantage over hanging.

- **Legislative Intent:** Section 393(5) of the recently enacted *Bharatiya Nagarik Suraksha Sanhita* (BNSS), 2023 also retains hanging as the prescribed method of execution for capital punishment. The Court observed that making laws and changing their provisions primarily falls within the domain of the legislature.

Court's Approach:

- The Court made it clear that if a scientific method emerges in the future that is less painful and more humane than hanging, its constitutional validity can be examined.
- The Court also indicated that the Central Government may constitute a high-level committee comprising legal experts, neuroscientists, and forensic experts to collect data on methods of execution followed in different countries and examine the feasibility of more humane alternatives.
- The government argued that due to the lack of sophisticated medical infrastructure and doctors in prisons located in remote areas of India, hanging remains an administratively predictable and reliable method of execution.

Law Commission's 262nd Report:

- The 262nd Report of the Law Commission of India (2015) made a significant recommendation concerning capital punishment in India. It recommended that, except for offences related to terrorism and waging war against the State, the death penalty should be completely abolished for all other ordinary crimes.
- The key findings of the Commission were as

follows:

- » **No Deterrent Effect:** There is no conclusive evidence that the death penalty effectively reduces crime.
- » **Irreversible Nature:** If an innocent person is executed due to a judicial error, the mistake cannot be rectified.
- » **Reformative Justice:** The criminal justice system should focus on the reformation of offenders rather than retribution.
- » **Alternative Punishment:** The Commission considered life imprisonment without the possibility of parole as a strong alternative to the death penalty.

Conclusion:

According to Amnesty International, more than two-thirds of the countries in the world have abolished the death penalty. In India, capital punishment is imposed only in the “rarest of rare” cases. As long as the death penalty continues to exist in the country, it is essential to maintain a delicate balance between the sovereign power of the State and the principle of human dignity.

PM CARES Fund

Context:

The PM CARES Fund (Prime Minister's Citizen Assistance and Relief in Emergency Situations Fund) has recently attracted attention as its total contributions declined to Rs.479.96 crore in FY 2024–25, while expenditure fell to just ₹87.85 lakh. At the same time, its closing balance reached a record Rs.8,452.06 crore. The figures have renewed debate over the balance between rapid emergency response and democratic accountability.

What is PM CARES Fund?

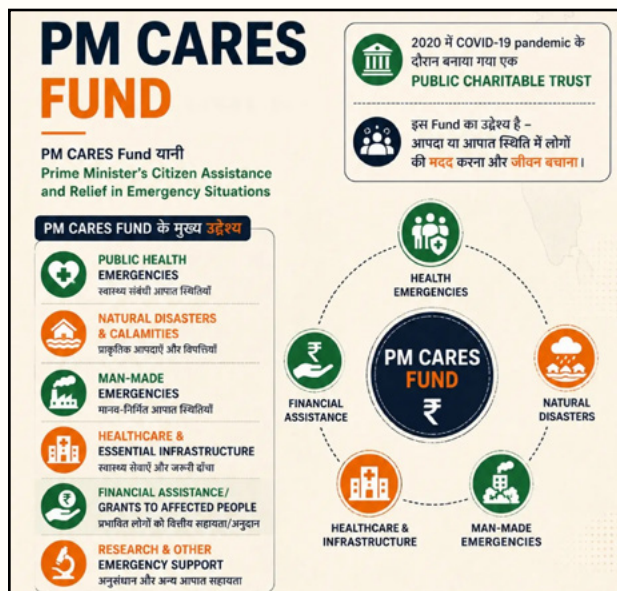
- The PM CARES Fund was established on 27 March 2020, following the COVID-19 outbreak, to deal with emergencies and distress situations. It is registered as a public charitable trust under the Registration Act,

1908.

- The Prime Minister is the ex-officio Chairman, while the Defence Minister, Home Minister and Finance Minister are ex-officio trustees.

Key Features:

- The Fund receives voluntary contributions from individuals and organisations.
- It receives no budgetary support from the government.
- Donations are eligible for 100% deduction under Section 80G of the Income Tax Act, subject to applicable provisions.
- Contributions can qualify as CSR expenditure under the Companies Act, 2013.
- It can receive eligible foreign contributions under the FCRA framework.
- Its accounts are audited by an independent auditor.



How Does It Enhance Emergency Response?

- As an extra-budgetary mechanism, PM CARES can mobilise resources without depending entirely on the normal budgetary cycle. This provides:
 - » **Speed:** Faster mobilisation during sudden crises.
 - » **Flexibility:** Resources can be deployed

for diverse emergency needs.

- » **Additional funding:** It supplements existing government mechanisms.
- » **Public participation:** Citizens and organisations can directly contribute to emergency relief.
- Thus, non-statutory mechanisms can be valuable when conventional administrative procedures may be too slow for an immediate crisis.

Accountability Concerns:

- However, flexibility must be accompanied by transparency. Since PM CARES is not funded through the Consolidated Fund of India, questions regarding its parliamentary scrutiny have generated debate.
- The reported position of the PMO is that questions concerning PM CARES, PMNRF and NDF are inadmissible under specified Lok Sabha rules.
- A second concern relates to audit. PM CARES is audited by an independent auditor, whereas statutory funds such as the National Disaster Response Fund (NDRF) operate under a different legal and audit framework.
- The record corpus alongside very low expenditure also raises questions about fund utilisation, disclosure and outcome-based accountability.

Supreme Court's View:

- In 2020, the Supreme Court declined to direct transfer of PM CARES funds to the National Disaster Response Fund (NDRF), observing that the two are distinct funds with different purposes. The Court also noted their different legal and audit frameworks.

PM CARES vs NDRF:

PM CARES	NDRF
Public charitable trust	Statutory fund
Established in 2020	Under Disaster Management Act, 2005

Voluntary contributions	Government resources
Independent audit	CAG audit framework

Conclusion:

PM CARES provides quick and flexible support during emergencies. Greater transparency, accountability and proper utilisation of funds can further strengthen its credibility.

Supreme Court Redefines the Meaning of 'Industry'

Context:

Recently, The Supreme Court's nine-judge Constitution Bench, headed by Chief Justice of India Surya Kant, delivered a 5:4 verdict on the meaning of "industry" under labour law. The Court held that the expansive interpretation given in Bangalore Water Supply & Sewerage Board v. R. Rajappa (1978) will not govern future disputes under the Industrial Relations Code (IRC), 2020.

About Bangalore Water Supply Case, 1978:

- In 1978, a seven-judge Bench gave an expansive interpretation to "industry" under Section 2(j) of the Industrial Disputes Act, 1947. It evolved the Triple Test, requiring:
 - » Systematic activity;
 - » Cooperation between employer and employee; and
 - » Production or distribution of goods or services to satisfy human wants.
- Profit motive was held unnecessary. Consequently, institutions such as hospitals, educational institutions, municipalities and clubs could fall within labour-law protection.
- The Court also evolved the Dominant Nature Test for organisations performing multiple activities.

Why Does the Definition Matter?

- Whether an establishment qualifies as an industry determines the applicability of

labour protections and industrial dispute-resolution mechanisms.

- The broad 1978 interpretation enabled workers to seek remedies concerning wages, working conditions, unionisation, strikes, collective bargaining and dismissal.
- However, it also generated extensive litigation, particularly after liberalisation, privatisation and globalisation (LPG) increased private participation in activities traditionally performed by the State.

Supreme Court's Majority View:

- The majority held that Section 2(p) of the Industrial Relations Code, 2020 must be interpreted on a clean slate. It should not be burdened by the interpretation of Section 2(j) of the repealed Industrial Disputes Act.
- Thus, the 1978 judgment remains applicable to legacy disputes under the 1947 Act, but will not determine future disputes under the IRC. The Court indicated that the earlier Triple Test may require reformulation under the new statutory framework.

Section 2(p) of the Industrial Relations Code, 2020:

- Section 2(p) defines "industry" through a systematic activity carried out through cooperation between an employer and workers for producing, supplying or distributing goods or services. The definition applies irrespective of capital investment or profit motive.
- It also expressly excludes certain charitable, social and philanthropic activities, specified government activities relating to defence research, atomic energy and space exploration, and other categories that may be excluded by the Central Government.
- Thus, Section 2(p) represents a new statutory framework and cannot simply be interpreted by mechanically importing the jurisprudence developed under Section 2(j)

Significance:

- The judgment seeks to provide legal clarity,

reduce litigation and distinguish legacy disputes from the new labour regime. However, its success will depend on the precise formulation of the new test.

- India needs a balanced labour framework that promotes worker dignity, social security and collective bargaining while providing enterprises and public institutions adequate flexibility.

Wearing Hijab Not Established as an 'Essential Religious Practice

Context:

Recently, the Allahabad High Court declined to recognise the wearing of a headscarf or hijab as an "Essential Religious Practice" (ERP) of Islam based on the material presented before it. The observation came while hearing a petition filed by a Class 11 Muslim student seeking permission to wear a hijab with her school uniform.

About the Court's Observation:

- The student argued that wearing a headscarf or hijab was an essential religious practice and was constitutionally protected under her fundamental rights, particularly Articles 14 and 19(1)(a).
- The student had been wearing a headscarf or hijab at the school since Class 6. However, the Court held that prior permission did not create any enforceable right to seek an exemption from the dress code.
- In the absence of sufficient evidence, the wearing of hijab could also not be established as an Essential Religious Practice. The Court observed that the matter primarily concerned the school's dress code and institutional discipline.

What is the Essential Religious Practices Doctrine?

- The Essential Religious Practices (ERP) doctrine is a judicially developed principle

used to determine which religious practices receive constitutional protection under Articles 25 and 26.

- Article 25 guarantees freedom of conscience and the freedom to profess, practise and propagate religion, subject to constitutional limitations.
- Article 26 provides religious denominations the right to manage their own religious affairs, subject to public order, morality and health.
- The doctrine is generally traced to the Shirur Mutt Case (1954), where the Supreme Court held that practices integral and essential to a religion could receive constitutional protection.

Judicial Intervention:

- The ERP (Essential Religious Practices) doctrine has been applied in several important cases:
- Sabarimala Case (2018): Women's entry into the temple was upheld in the context of religious freedom and equality.
- Triple Talaq Case (2017): The Supreme Court invalidated instant triple talaq, stating that it is not an essential religious practice.
- Karnataka Hijab Case: The Court examined whether wearing the hijab is an essential religious practice in Islam.
- Courts have also examined religious practices involving religious denominations and animal sacrifice.

Major Criticisms:

- **Judicial Theological Intervention:** Courts may lack the theological expertise required to determine which practices are essential to a religion.
- **Subjectivity:** There is no completely uniform test for determining what constitutes an essential religious practice.
- **Religious Freedom vs Social Reform:** The doctrine raises questions about how far the State and judiciary should intervene in religious practices to protect equality and dignity.

Constitutional Significance:

- The hijab issue highlights the need to balance religious freedom, equality, individual dignity and institutional discipline.
- It involves Articles 14, 19 and 25 and raises wider questions about constitutional morality and Indian secularism.



HIJAB IN INDIA: KEY DEVELOPMENTS AND COURT RULINGS

- 2003–2018 | Early High Court rulings**
Bombay, Madras and Kerala High Courts heard cases on headscarves, religious practices and institutional dress codes.
- 2021–22 | Karnataka hijab row**
The controversy began in December 2021 after Muslim students in Udupi were stopped from attending classes wearing hijabs, triggering protests and counter-protests.
- March 2022 | Karnataka High Court**
Upheld hijab restrictions where uniforms were prescribed and ruled that wearing the hijab was not an essential religious practice in Islam.
- October 2022 | Supreme Court**
Delivered a split verdict—one judge upheld the restrictions, while the other opposed them.
- December 2023 | Karnataka**
The state government withdrew the 2022 hijab restriction order.
- 2026 | Allahabad High Court**
Dismissed a Class XI student's plea seeking permission to wear a headscarf with the prescribed school uniform.

Conclusion:

The Allahabad High Court judgment highlights the continuing relevance and controversy surrounding the Essential Religious Practices doctrine. The broader constitutional challenge is to maintain a balance between religious freedom, equality, dignity, social reform and constitutional morality.

Digital Agricultural Revolution

Context:

Recently, the Department of Fertilizers (DoF), Ministry of Chemicals and Fertilizers, has transitioned the Integrated Fertilizer Management System (iFMS) into a modern, data-driven phase. Under this new framework, iFMS has been integrated with initiatives such as Haryana's 'Meri Fasal Mera Byora' (MFMB) portal and the national-level AgriStack initiative. The primary objective is to ensure the precise distribution of fertilizers based on land records and actual crop requirements.

Integrated Fertilizer Management System:

- The Integrated Fertilizer Management System (iFMS) is a comprehensive digital platform of the Government of India that monitors the entire fertilizer supply chain, including production, imports, transportation, stock availability, retail sales, and subsidy distribution.
- It enables real-time monitoring of fertilizer supply and stock availability at the national, state, and district levels.
- It is one of the country's largest digital systems, monitoring the fertilizer supply chain from production to last-mile distribution.

Key Benefits of the Integration:

- **Verification of Land and Crop Data (Crop & Land Mapping):** By integrating iFMS with 'Meri Fasal Mera Byora' (MFMB), the quantity of fertilizer purchased by a farmer can now be mapped against the land owned by the farmer and the area under cultivation.
- This can help curb hoarding, black marketing, and illegal diversion of fertilizers for non-agricultural purposes, such as industrial use.
- **Advanced Decision Support Dashboard (Decision Support System):** A centralized analytical dashboard has been developed

for policymakers.

- It enables real-time monitoring of stock availability at the national, state, and district levels. This allows potential shortages or unusual purchasing patterns in any region to be identified promptly and helps ensure a smooth supply of fertilizers.
- **Mobile App-Based Pre-Booking System:** Under the Fertilizer Sale Framework (FFS), farmers can now use their AgriStack identity to pre-book fertilizers through a mobile application.
- After reaching the dealer, farmers can obtain the fertilizer immediately by simply scanning a QR code, reducing waiting times and eliminating the need to stand in long queues.
- **Supply Chain and Financial Security:** Vehicle Location Tracking Systems (VLTS) have been installed in vehicles transporting fertilizers to prevent theft during transit. In addition, e-subsidy billing has been integrated directly with the Public Financial Management System (PFMS), enabling faster and more direct payment of subsidies to fertilizer companies.

Conclusion:

This initiative represents an important step towards strengthening Precision Agriculture and Digital Public Infrastructure (DPI) in India. Through more targeted and transparent administration of fertilizer subsidies, it can contribute to the more efficient utilisation of fiscal resources. By promoting balanced fertilizer use, it can also help protect soil health. However, successful implementation will require strengthening internet connectivity across the country and improving the digital literacy of small and marginal farmers.



International Relations

The Changing Geopolitical Landscape and Balance of Power in the Arctic: A New Strategic Challenge for India

Context:

Recently, the Parliamentary Standing Committee on External Affairs presented its report on the 'Role and Presence of India in the Polar Regions (Arctic and Antarctic)'. The report provides a highly important and objective assessment of India's scientific ambitions, geopolitical strategies, strategic shortcomings, and budgetary realities following the National Arctic Policy released by India in 2022.

Traditionally, India has viewed the polar regions merely as remote, frozen continents and platforms for scientific exploration. However, in the current global scenario, these regions are no longer limited to science; they have now emerged as major focal points of climate change, resource security, and global geopolitics. The Committee has recommended measures such as the appointment of a Polar Ambassador for India, strengthening institutional capacity in Arctic affairs, developing the Northern Sea Route (NSR), and promoting comprehensive diplomatic cooperation with Arctic countries.

The Changing Geopolitical Landscape of the Arctic

- The Arctic region is witnessing a decline in sea ice due to climate change. As a result, maritime routes that were previously extremely difficult to navigate are becoming navigable for longer periods. The most important example is the Northern Sea Route, which runs along Russia's northern coast and connects the Pacific and European

maritime regions.



- This transformation could have an impact on global trade. For a trade-dependent country like India, the importance of alternative maritime routes is increasing because they can reduce dependence on traditional maritime routes. According to the Parliamentary Committee, the Northern Sea Route could potentially serve as an alternative to the Suez Canal for India, and India and Russia have also established a Joint Working Group in this direction, with a target of transporting 5 million tonnes of cargo through this route by 2030.
- The decline in sea ice in the Arctic is not merely an opportunity but also a sign of emerging geopolitical competition. With the opening up of maritime routes, the importance of ports, energy resources, shipping, military deployments, and digital

infrastructure will increase. Therefore, in the coming years, Arctic geopolitics could influence the global balance of power in much the same way as the Indo-Pacific.

Why is the Arctic Important for India?

- India's interests are directly linked to the Arctic. The first reason is climate security. Changes in the Arctic climate system can influence global weather patterns, with far-reaching consequences for the Indian monsoon, agriculture, and food security. Therefore, for India, Arctic diplomacy does not merely mean establishing a presence in the northern polar region, but also protecting its domestic climate and economic security.
- The second dimension is energy and critical minerals. The Arctic is extremely rich in natural resources. The Parliamentary Committee has specifically noted the availability of critical minerals that are used in important industries such as pharmaceuticals and air-conditioning. In the context of India's growing industrial economy and supply-chain diversification, mineral diplomacy with Arctic countries could become important.
- The third dimension is maritime connectivity and trade. If India's Act East and Act Far East policies are linked with a broader maritime strategy, the Chennai-Vladivostok maritime connectivity and, beyond it, Arctic routes could help India develop a broader connectivity framework linking the Indian Ocean, the Russian Far East, and the Arctic. India's Arctic cooperation with Russia forms part of this broader strategic approach.

India's Presence in Antarctica:

- In 1920, India, as part of the British Empire, also signed the Svalbard Treaty as an original signatory. India launched its first Antarctic expedition in 1981. India established three permanent research stations there:
 - » **Dakshin Gangotri (1983):** It was India's first station, which is now buried under ice and is used as a supply base.
 - » **Maitri (1989):** This station is currently operational but has long surpassed its

stipulated 10-year operational lifespan.

- » **Bharati (2012):** This is India's most modern, state-of-the-art, and fully operational station.
- In 2008, India established its permanent research station 'Himadri' at Ny-Ålesund in Svalbard, Norway, under the Svalbard Treaty. With this, India became one of the few developing countries with a permanent scientific presence at both poles.
- In 2014, India also deployed a multi-sensor observatory named 'IndARC' in the Kongsfjorden fjord of the Arctic.

India's Arctic Diplomacy:

- India established its presence in the Arctic relatively early. Since 2013, India has been an Observer State in the Arctic Council. In March 2022, India released its Arctic Policy. Its major priorities include scientific research, environmental protection, economic development, transport and connectivity, Arctic governance, and institutional capacity building.
- Nevertheless, India's biggest challenge is the gap between policy and capacity. India needs to develop a clear and effective strategic narrative on the Arctic alongside its Arctic Policy.
- The Parliamentary Committee has also identified several structural shortcomings—limited maritime access, logistical difficulties, inadequate budgetary allocation, and a shortage of scientific and technical human resources.
- The Committee has recommended a 30% increase under the Polar Research Scheme and additional permanent positions at the National Centre for Polar and Ocean Research.

Russian and Chinese Factors:

- Russia is of the greatest importance to India's Arctic strategy. Russia has a vast Arctic coastline, ports, energy resources, and a major share of the Northern Sea Route. Following the Ukraine conflict, tensions between Western countries and Russia have increased, altering the political

character of Arctic cooperation as well. For India, this situation presents a complex diplomatic balancing challenge.

- On the one hand, Russia can provide India with opportunities in the NSR, energy, shipping, and Arctic infrastructure. On the other hand, excessive dependence on Russia in the Arctic could affect India's strategic balance with other Arctic partners, particularly the Nordic countries, Japan, and South Korea.
- The growing presence of China in Arctic politics is of particular importance to India. China presents itself as a "Near-Arctic State" and is expanding its presence in the Arctic through research, shipping, and economic cooperation. The Parliamentary Committee has also stated that several Asian countries, including China, Japan, and South Korea, have stronger relations with Arctic countries compared to India.
- India should not view the Arctic merely as a strategic arena of rivalry in the name of competition with China. India should develop a useful role in science, maritime connectivity, critical minerals, and a rules-based order.

Major Challenges before India:

- Limited polar research infrastructure
- High logistical and operational costs
- Limited capacity in ice-class shipping and polar technologies
- Limited budgetary allocation
- Shortage of trained scientific and technical human resources
- Risk of excessive dependence on Russia
- Growing Arctic presence of China
- Limited institutional capacity of India in Arctic governance
- Balancing climate change with commercial exploitation

Way Forward:

India should strengthen its Arctic strategy at the following major levels:

- **Strengthening institutional capacity:** A Polar Ambassador or a strong institutional mechanism for Arctic affairs should

be established. This would improve coordination among various ministries.

- **Strengthening polar maritime capabilities:** India should develop a dedicated polar research vessel and advanced ice-class maritime capabilities. This would reduce dependence on foreign vessels and enable India to remain active in scientific and strategic activities throughout the year.
- **Issue-based partnerships:** Issue-based coalitions should be developed with Nordic countries, Japan, South Korea, and other Observer States. The Parliamentary Committee's suggestion of cooperation among India-Japan-Singapore-South Korea is significant in this direction.
- India should not treat the Arctic Policy merely as a climate policy, but as a broader foreign-policy instrument that integrates energy security, critical minerals, maritime connectivity, supply-chain resilience, scientific diplomacy, and international law.
- India should promote the principles of freedom of navigation, environmental sustainability, scientific cooperation, and responsible resource use through UNCLOS, the Arctic Council, and other international frameworks.

Conclusion:

The melting ice of the Arctic is not merely an indication of the climate crisis; it is also a sign of the changing nature of the world order. Just as the Indo-Pacific has emerged as a major centre of global strategic competition in the 21st century, the Arctic could similarly become an important arena for trade, resources, maritime routes, and the balance of power in the future. The opportunities before India are clear, but these opportunities can be transformed into strategic advantages only when India possesses capacity alongside vision, investment alongside diplomacy, and institutional preparedness alongside strategic autonomy. Rather than aligning itself with any one power in the Arctic race, India should develop a role that establishes it as a partner, rule-maker, and credible scientific power.

Short Issues

Spain Faces Migration Crisis in Ceuta

Context:

In recent times, Spain is facing one of its biggest migration crises in recent years after 50,000–60,000 migrants crossed into the Spanish enclave of Ceuta from Morocco within 24 hours. The unprecedented influx overwhelmed local authorities and resulted in at least 41 deaths, highlighting the humanitarian and security challenges associated with irregular migration into Europe.

Background:

- Ceuta and Melilla are two Spanish autonomous cities located on the northern coast of Africa. They constitute the European Union's only land borders with Africa, making them key entry points for migrants seeking to reach Europe. Migrants often attempt to enter Ceuta by swimming around border barriers or scaling the heavily fortified border fences.

Reasons behind the Surge:

The Spanish government attributes the sudden influx to:

- Human trafficking gangs are spreading misinformation regarding the recent Spanish Supreme Court ruling that the provision of “summary return” only applies to migrants crossing the border fence. Migrants arriving by sea in Ceuta and Melilla cannot be returned without due process and must go through the normal immigration process, and falsely claiming that migrants arriving by sea will be allowed to stay in Spain.
- Persistent economic hardship, unemployment, and poverty in parts of North Africa.
- The geographical proximity of Ceuta and Melilla to Morocco, making them attractive entry points into the European Union.
- However, some human rights organizations argue that structural socio-economic

factors, rather than legal misinformation alone, largely explain the mass movement.

Spain's Response:

- Prime Minister Pedro Sánchez visited Ceuta and described the mass crossing as a “violation of Spain's territorial integrity.”
- Additional military personnel and Civil Guard units were deployed to restore order.
- Spain coordinated with Morocco to strengthen border controls and facilitate the return of migrants.
- Authorities emphasized dismantling human trafficking and migrant smuggling networks responsible for encouraging dangerous crossings.



European Response:

- European Commission President Ursula von der Leyen called for stronger action against illegal migration and migrant smuggling while stressing adherence to EU migration rules.
- Several European countries announced enhanced border monitoring, reflecting growing concerns over irregular migration within the Schengen Area.
- The crisis has revived debates on EU

burden-sharing, border management, and asylum policies.

Challenges:

- Managing a large-scale humanitarian emergency while maintaining border security.
- Protecting the rights and safety of migrants, particularly women and children.
- Combating organized human trafficking networks.
- Balancing national security concerns with international refugee and human rights obligations.
- Strengthening cooperation between Spain, Morocco, and the European Union to prevent similar crises.

Way Forward:

The crisis underscores the need for a comprehensive migration management strategy combining stronger border cooperation, dismantling human trafficking networks, improved legal migration pathways, and addressing the root causes of migration through economic development and regional cooperation. Sustainable solutions will require close coordination between Spain, Morocco, the European Union, and international organizations to ensure both humanitarian protection and effective border governance.

Protests in Pakistan-Occupied Jammu & Kashmir (PoJK)

Context:

Recently, Pakistan-occupied Jammu & Kashmir (PoJK) has witnessed widespread protests, particularly in Rawalakot, Muzaffarabad, and Kotli, against the ongoing three-phase Assembly elections, alleged electoral manipulation, rising inflation, and the lack of political representation.

Why are protests taking place in PoJK?

- The protests began as a movement against inflation, rising electricity tariffs, and poor

governance after the COVID-19 pandemic but have gradually evolved into a broader political movement demanding greater democratic rights and local representation. Protesters allege that the ongoing three-phase elections (July 27–August 11, 2026) are being manipulated by Pakistan's establishment and fail to reflect the aspirations of the local population.

- A major grievance relates to the composition of the 53-member PoK Legislative Assembly, where 45 members are elected and 8 are nominated. Of the 45 elected seats, 12 are reserved for refugees from the erstwhile Indian Union Territory of Jammu & Kashmir who migrated after 1947.
- Since these refugee voters reside outside PoK, local groups argue that the arrangement dilutes the political representation of residents and enables Islamabad to exercise greater control over the region's political affairs.



India's Position on PoJK:

- India has consistently maintained that the entire Union Territory of Jammu & Kashmir, including Pakistan-occupied Jammu & Kashmir (PoJK), is an integral and inalienable part of India. This position has been reaffirmed through parliamentary resolutions and official statements of the Government of India.
- The Ministry of External Affairs (MEA) has condemned Pakistan's use of excessive force against peaceful protesters and criticised

the continued denial of democratic rights and civil liberties in PoJK. India has also highlighted that Pakistan's actions expose its disregard for the welfare and aspirations of the people living in the illegally occupied territory.

Strategic Importance for India:

- PoJK holds immense strategic significance for India.
- It shares the Line of Control (LoC) with the Union Territory of Jammu & Kashmir.
- The region provides Pakistan with strategic access to Gilgit-Baltistan, where the China-Pakistan Economic Corridor (CPEC) passes through territory claimed by India.
- Areas such as Muzaffarabad, Kotli and Rawalakot have historically served as launch pads for cross-border terrorism and infiltration into India.
- The continued instability in PoJK directly impacts India's national security and border management.
- Therefore, developments in PoJK remain closely linked to India's security, diplomatic, and geopolitical interests.

Concerns for India:

From India's perspective, the situation raises several concerns:

- **Human Rights Violations:** Reports of excessive force, arbitrary arrests, and restrictions on media and communication highlight the deteriorating human rights situation in PoJK.
- **Cross-border Terrorism:** Political instability could either weaken terrorist infrastructure or prompt Pakistan-based groups to divert attention through increased infiltration attempts across the LoC.
- **Chinese Presence:** Pakistan's deepening strategic partnership with China, particularly through CPEC, increases the geopolitical importance of PoJK.
- **Regional Stability:** Continued unrest in PoJK has implications

Conclusion:

The ongoing protests in Pakistan-occupied Jammu & Kashmir (PoJK) highlight governance failures and democratic deficits under Pakistan's administration. From India's perspective, they reinforce its consistent position that PoJK is an integral part of India and underscore the importance of protecting the rights and aspirations of its people.

The Mecca Joint Defence Agreement

Context:

On 7 August 2026, Saudi Arabia, Türkiye and Pakistan signed the Mecca Joint Defence Agreement in Mecca. The pact provides for collective defence, stating that an armed attack against one member would be treated as an attack against all. It builds upon the Saudi-Pakistan Strategic Mutual Defence Agreement of 2025 and marks an important development in West Asia's evolving security architecture.

Strategic Breakdown of the Trilateral Alliance:

The three countries bring complementary strategic capabilities:

- **Saudi Arabia-Financial Power:** Riyadh provides substantial financial resources, energy assets and defence spending. It also seeks greater diversification of its security partnerships.
- **Türkiye-Defence-Industrial Power:** Ankara contributes advanced defence technologies, including drones, naval platforms and electronic warfare capabilities.
- **Pakistan-Military Power:** Islamabad provides a large conventional military, operational experience and a nuclear deterrent, along with longstanding defence ties with Saudi Arabia.

Implications for India:

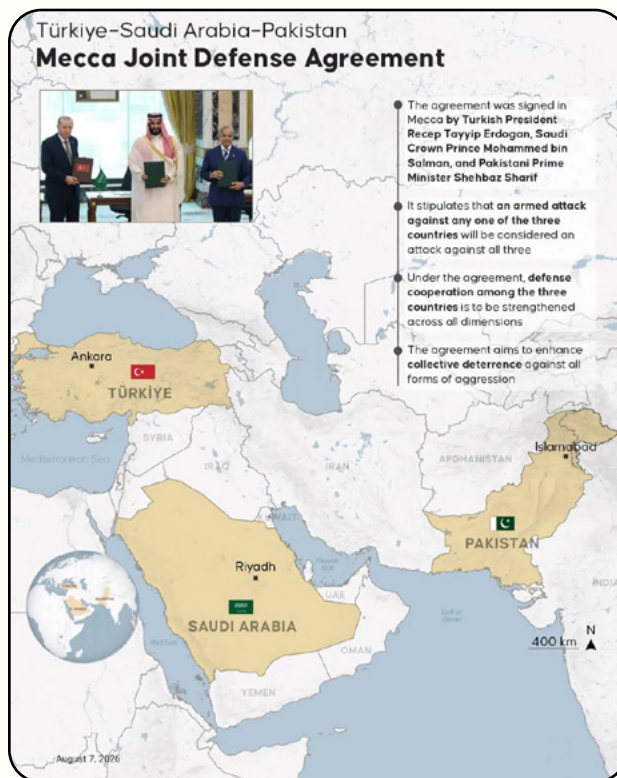
The emergence of this trilateral security axis directly intersects with India's core national security and foreign policy interests in several

ways:

- **Stress Test for India-Saudi Ties:** New Delhi has spent a decade building a robust strategic and energy partnership with Riyadh. Pakistan's formal integration into Gulf security structures introduces a complex layer that could dilute India's regional diplomatic leverage.
- **Boost to the Pakistan-Türkiye Axis:** Türkiye has consistently opposed India's stance on Kashmir. This pact enables Saudi funds to accelerate Turkey-Pakistan joint weapons development, rapidly upgrading Pakistan's conventional military capabilities along India's western border.
- **Nuclear Ambiguity Concerns:** While Pakistan's nuclear deterrent is primarily India-centric, vague assertions by Pakistani officials regarding the availability of its strategic assets to allies introduce unpredictable variables into broader Asian security.
- **Threat to Connectivity Infrastructure:** Increased military polarization in West Asia poses risk to the development of the India-Middle East-Europe Economic Corridor (IMEC), which relies heavily on regional stability.

The Path Forward for India:

- **Strengthen Economic Interdependence:** India should deepen trade, investment, energy and technology partnerships with Gulf countries.
- **Deepen Defence Diplomacy:** New Delhi should expand intelligence sharing, maritime cooperation, counter-terrorism coordination and defence exercises with regional partners.
- **Accelerate Defence Indigenisation:** India must strengthen domestic capabilities in drones, counter-drone systems, electronic warfare, precision weapons and air defence.
- **Maintain Strategic Autonomy:** India should preserve constructive relations with Saudi Arabia, Iran, UAE, Israel, Türkiye and the United States, avoiding rigid bloc politics.



Conclusion:

The Mecca Joint Defence Agreement reflects the emergence of a more multipolar and networked security order in West Asia. For India, it presents challenges but also opportunities. The appropriate response is not counter-bloc formation, but strategic autonomy, diversified partnerships, stronger defence capabilities and deeper economic engagement with West Asia.

India-Japan Maritime Security Cooperation

Context:

Recently, Defence Minister Rajnath Singh and Japanese Defence Minister Shinjiro Koizumi held the Japan-India Defence Ministers' Meeting in New Delhi. The two sides signed a Memorandum of Arrangement (MoA) on Maritime Security Cooperation to strengthen operational coordination and protect vital Sea Lines of Communication (SLOCs) in the Indo-

Pacific.

Key Areas of Maritime Cooperation:

- The MoA provides a framework for closer cooperation between the Indian Navy and Japan Maritime Self-Defense Force (JMSDF), particularly in:
 - » Maritime Domain Awareness (MDA) and information sharing.
 - » Search and Rescue (SAR) operations.
 - » Humanitarian Assistance and Disaster Relief (HADR).
 - » Protection of SLOCs through naval visits, joint exercises, personnel and Subject Matter Expert exchanges.
 - » Logistical cooperation, including access to ports and maintenance and repair facilities.

Defence Technology and Shipbuilding:

- India and Japan agreed to explore joint development in naval shipbuilding and design, combining Japan's technological expertise with India's production capabilities under the Make in India framework.
- Both also agreed to strengthen mine-countermeasure capabilities and work towards reciprocal access to ship-repair facilities.
- The UNICORN integrated communications antenna system was highlighted as the first defence equipment transfer project between the two countries, symbolising their growing defence technology partnership.

Military Exercises:

- The two countries welcomed progress in major bilateral exercises:
 - » **Dharma Guardian** – Army exercise.
 - » **JAIMEX** – Maritime exercise.
 - » **Veer Guardian 26** – Air Force exercise.
- For Veer Guardian 26, Japanese fighter aircraft are scheduled to visit India for the first time. Both sides also agreed to increase exercise complexity and integrate unmanned systems.



Institutional Mechanism::

- A Director-General/Joint Secretary-level Working Group will coordinate cooperation across operational, intelligence, equipment, technology and industrial domains. This mechanism aims to accelerate implementation and maximise synergies.

Wider Indo-Pacific Cooperation:

- India and Japan welcomed the first India-Japan-Indonesia trilateral naval PASSEX held in February 2026. They also agreed to deepen cooperation through the Indo-Pacific Logistics Network (IPLN) for disaster-relief transportation of personnel and supplies.

Strategic Significance:

- The partnership strengthens:
 - Maritime security and freedom of navigation.
 - Protection of critical trade and energy routes.
 - Defence industrial cooperation and self-reliance.
 - India's strategic position in the Indo-Pacific.
 - A free, open and rules-based Indo-Pacific.

Conclusion:

The August 2026 agreement marks a significant expansion of India-Japan defence cooperation from traditional exercises towards operational,

technological and industrial integration. By strengthening maritime awareness, SLOC protection, defence technology and regional partnerships, it contributes to stability and security in the Indo-Pacific.

Iran 'Invited' to Join Mecca Defence Pact

Context:

Recently, Iran has reportedly received an official invitation to join the Mecca Joint Defence Agreement, formed by Saudi Arabia, Türkiye and Pakistan. The development is significant amid changing geopolitical and security dynamics in West Asia.

What is the Mecca Joint Defence Agreement?

- Saudi Arabia, Türkiye and Pakistan signed the Mecca Joint Defence Agreement on 7 August 2026. It provides for collective defence, under which an armed attack on one member would be considered an attack on all.
- The pact builds upon the Saudi-Pakistan Strategic Mutual Defence Agreement of 2025 and could become an important part of West Asia's emerging security architecture.

Why is Iran's Possible Inclusion Important?

- Iran's possible entry would be significant because of its historically competitive relationship with Saudi Arabia. It could indicate a shift from regional rivalry towards greater security cooperation.
- It could also transform the pact from a trilateral arrangement into a broader regional security framework. However, Iran's actual participation remains uncertain.

Geopolitical Challenges and Contradictions:

- Despite the reported diplomatic opening, several structural obstacles make Iran's entry highly speculative.
 - » **Active Hostilities:** The reported invitation comes amid continuing

regional tensions. Reports of Saudi Arabia halting trade with Iran on 18 August 2026 highlight the contradiction between ongoing friction and a possible defence alliance.

- » **Proxy Warfare:** Iran-backed groups, including the Houthis, remain a major concern for maritime security and regional stability. Reconciling Iran's relationships with such groups with collective-defence commitments would be challenging.
- **Strategic Distrust:** Differences between Iran and Gulf states over Western military presence, regional influence and security arrangements could make unified collective diplomacy difficult.



Strategic Significance:

- **Saudi Arabia:** Financial strength, energy resources and defence expenditure.
- **Türkiye:** Advanced defence technologies, drones and naval capabilities.
- **Pakistan:** Conventional military strength and nuclear deterrence.
- **Iran:** Major geopolitical influence, military capabilities and strategic location.

Impact on India's Foreign Policy:

- **Balancing the "Look West" Policy:** India maintains important relations with Saudi Arabia in energy and trade, Iran through Chabahar Port and the International North-South Transport Corridor and Türkiye through economic engagement. A broader regional bloc would require greater multilateral diplomacy.
- **Pakistan Factor:** Pakistan's central role in

a resource-rich Islamic defence framework could influence the South Asian security balance and India's strategic calculations.

- **Energy and Maritime Security:** India depends significantly on West Asian stability for energy supplies and maritime trade. A successful regional security framework could benefit India by reducing conflict, provided it remains inclusive rather than exclusionary.

Challenges for India:

- Growing regional military blocs.
- Pakistan-Türkiye defence cooperation.
- Nuclear-security concerns.
- Threats to energy and maritime routes.
- Balancing relations with Iran, Saudi Arabia, Türkiye and the US.

Way Forward:

- India should preserve strategic autonomy and avoid rigid bloc politics. It should strengthen defence diplomacy, maritime cooperation and intelligence sharing while accelerating defence indigenisation in drones, counter-drone systems, electronic warfare and air defence.
- New Delhi should also deepen economic and energy partnerships with Gulf countries while maintaining constructive relations with Iran and other regional powers.

Conclusion:

The reported invitation to Iran reflects the rapidly evolving security architecture of West Asia. For India, the priority should be strategic autonomy, diversified partnerships, energy security and stronger defence capabilities, while supporting regional stability and protecting its

connectivity interests.

India-China Border Delimitation

Context:

Recently, India and China held the 25th round of Special Representatives' talks in Beijing. NSA Ajit Doval and Chinese Foreign Minister Wang Yi discussed maintaining peace along the border and advancing border delimitation negotiations.

What is the Development?

- Both sides discussed advancing delimitation negotiations, strengthening border management, improving institutional mechanisms and promoting transboundary cooperation.
- Earlier, India and China had agreed to explore an "early harvest" approach for resolving relatively less contentious portions of the boundary. However, the



latest talks did not specify the areas where such delimitation could be pursued.

- Delimitation means reaching an agreement on the alignment of the boundary, while demarcation involves physically marking the agreed boundary on the ground.

- The 2005 Agreement on Political Parameters and Guiding Principles remains an important framework for a final boundary settlement. It envisages a mutually acceptable, package-based solution while taking into account the interests of both sides.

What is the India–China Border Dispute?

- The India–China boundary dispute is spread across three sectors:
 - » **Western Sector:** Covers Ladakh and Aksai Chin. India claims Aksai Chin, while China controls it.
 - » **Middle Sector:** Covers Himachal Pradesh and Uttarakhand and includes disputed areas such as Bara Hoti.
 - » **Eastern Sector:** Covers Arunachal Pradesh and Sikkim. China rejects the McMahon Line and claims Arunachal Pradesh, particularly Tawang.
- The LAC is a de facto line of control and not a mutually agreed, legally demarcated international boundary. Differing perceptions of its alignment have contributed to repeated confrontations.

Mechanisms to Handle the Border Dispute:

- India and China have established several mechanisms:
 - » **1993 Agreement:** Ensures peace and tranquillity along the LAC.
 - » **1996 Agreement:** Provides confidence-building measures and restrictions on military activities.
 - » **2005 Agreement:** Lays down political parameters for resolving the boundary question.
 - » **WMCC (2012):** A diplomatic-level mechanism for consultation and coordination on border affairs.
 - » **Special Representatives' mechanism:** Provides a high-level political framework for negotiations.
 - » **Military-level talks:** Address issues of disengagement and de-escalation.
- Going forward, both sides should clarify LAC perceptions, strengthen crisis-management

mechanisms and pursue sector-wise delimitation.

Conclusion:

India and China should adopt a gradual, mutually acceptable and agreement-based approach to border delimitation. Early progress in less contentious areas can build trust and create momentum for a final settlement.

India-US Javelin Anti-Tank Missile Deal

Context:

India and the US have recently finalized a deal worth Rs.292 crore (\$45 million) for 'Javelin' anti-tank guided missiles (ATGMs) for the Indian Army. The Indian Army signed the Letter of Acceptance (LOA) under the US Foreign Military Sales (FMS) process. The US has described this agreement as a significant step towards deepening defense cooperation between the two nations and has linked it to future opportunities for co-production and defense industrial collaboration.

What is the Javelin missile?

- The FGM-148 Javelin is a man-portable, shoulder-launched, fire-and-forget anti-tank missile system developed by the US. It is primarily designed to destroy tanks, armored vehicles, and other hardened targets. Its key feature is that, once launched, the operator does not need to continuously guide the missile toward the target.
- The Javelin utilizes an infrared seeker and can strike targets in both top-attack and direct-attack modes. In top-attack mode, the missile targets the relatively vulnerable upper section of an armored vehicle, thereby enhancing its effectiveness against modern tanks.



JAVELIN ANTI-TANK MISSILE DEAL

India and the US finalize a deal for 'Javelin' Anti-Tank Guided Missiles (ATGMs) for the Indian Army.

 DEAL VALUE ₹292 CRORE (\$45 MILLION)	 SIGNED UNDER US FOREIGN MILITARY SALES (FMS) PROCESS	 FOR INDIAN ARMY	 LETTER OF ACCEPTANCE (LOA) SIGNED
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ABOUT JAVELIN MISSILE

- Man-portable, medium-range anti-tank guided missile
- Top-attack capability – strikes the most vulnerable part of the target
- Fire-and-forget system – no need for continuous guidance
- Effective in varied terrain and conditions

SIGNIFICANCE

- Enhances anti-tank warfare capability of the Indian Army
- Strengthens India-US defence cooperation
- Boosts indigenous operational preparedness
- Supports modernization of the Armed Forces

Why is it significant for India?

- The procurement of the Javelin holds special significance in the context of India's security requirements. In mountainous and rugged border regions, a lightweight and portable anti-tank system can boost the combat capabilities of infantry troops.
- Modern anti-armor capability is crucial for the Indian Army, particularly amidst evolving military dynamics along the borders with China and Pakistan.
- This emergency deal has been finalized in light of the strategic situation that emerged following 'Operation Sindoor' last year and the escalating security challenges along the northern borders.
- In the initial phase of the agreement, the Indian Army will receive approximately 60 Javelin missile rounds and 16 to 25 lightweight launch units.
- The first consignment of these weapons is

expected to arrive in India by the end of the 2026-27 fiscal year, thereby enhancing the firepower of infantry units deployed at the front lines.

A New Phase in India-US Defense Relations:

- The Javelin agreement is not limited merely to the procurement of weapons; it opens up opportunities for future collaboration and co-production between the defense industries of both nations.
- This holds significant potential, aligning with India's 'Make in India' initiative and its priorities regarding self-reliant defense production.
- However, technology transfer—particularly concerning the missile's state-of-the-art seeker technology—remains a significant challenge for actual co-production.
- While the possibility of co-producing the Javelin in India has been discussed in the past, progress has been hindered by issues related to technology transfer.

Strategic Significance:

- The induction of US Javelin missile technology into the Indian Army will not only fortify India's defense preparedness but also prove instrumental in ensuring regional stability.
- This strategic defense deal comes at a time when maintaining the balance of power in the Indo-Pacific region has become a shared priority for both nations.
- The Javelin deal also reflects India's multi-source defense procurement policy. While India emphasizes the development of indigenous systems, it simultaneously procures advanced foreign systems to meet immediate operational requirements.
- This presents the challenge of striking a balance between immediate capability enhancement and long-term self-reliance.

Conclusion:

India has now joined the select club of nations that utilize the Javelin, a move that underscores the country's growing military and diplomatic

stature on the global stage. The procurement of the Javelin offers an opportunity to strengthen the Indian Army's anti-armor capabilities while also elevating the India-US defense partnership beyond a mere 'buyer-seller relationship' towards technology, industrial collaboration, and co-production.

India-Uzbekistan Relations

Context:

During the official visit of the Prime Minister of India to Tashkent, Uzbekistan, in August 2026, the two countries upgraded their bilateral relations to a Comprehensive Strategic Partnership. During the summit, 11 important agreements were signed to promote cooperation in areas such as energy, the digital economy, security, and connectivity.

Key Highlights of the 2026 Bilateral Summit:

- **Energy Security (Long-Term Uranium Agreement):** To strengthen India's civilian nuclear energy sector, the two countries signed a historic agreement for the long-term supply of uranium. This agreement will ensure continuity in uranium supplies from Uzbekistan to India.
- **Connectivity and Financial Inclusion (UPI-UZQR Integration):** As part of India's major achievements in the field of Digital Public Infrastructure (DPI), an agreement was signed between the National Payments Corporation of India (NPCI) and Uzbekistan's HUMO network. Under this arrangement, India's UPI will be integrated with Uzbekistan's national UZQR code system, promoting digital trade and tourism between the two countries.
- **Trade and Investment:** In 2025, bilateral trade increased by 33% to \$1.3 billion. Both countries have set a target of achieving \$5 billion in bilateral trade by 2030. To achieve this objective, negotiations on a Preferential Trade Agreement (PTA) are being accelerated.

- **Tourism and Culture:** Uzbekistan has announced visa-free travel for Indian citizens for up to 30 days. India has also announced \$1 million in assistance for ecological restoration in the Aral Sea Basin, along with technical assistance for the preservation of Buddhist archaeological sites—Fayaz Tapa and Kara Tapa—in Termez.



India-Uzbekistan Relations:
A New Chapter Towards a Comprehensive Strategic Partnership

Why in News?

During the official visit of the Prime Minister of India to Tashkent, Uzbekistan, in August 2026, the two countries upgraded their bilateral relations to a **Comprehensive Strategic Partnership**.

During the summit, 11 important agreements were signed to promote cooperation in areas such as energy, the digital economy, security, and connectivity.

A major highlight of the visit came when President Shavkat Mirziyoyev conferred Uzbekistan's highest state honour, **the Order of Oliy Darajali Do'stlik**, on Prime Minister Narendra Modi.

KEY HIGHLIGHTS OF THE VISIT

- Elevation of bilateral ties to Comprehensive Strategic Partnership
- 11 agreements/MoUs signed to deepen cooperation
- Commitment to peace, stability and prosperity in the region
- Reaffirmed support for each other's sovereignty, independence and territorial integrity
- Agreed to enhance people-to-people contacts, cultural & educational exchanges and tourism

11 IMPORTANT AGREEMENTS SIGNED

- ✓ Cooperation in the field of Energy
- ✓ Cooperation in the field of Digital Technologies and Start-ups
- ✓ Cooperation in the field of Defence Industry
- ✓ Cooperation on Counter-Terrorism and Transnational Organized Crime
- ✓ Cooperation in Agriculture and Food Security
- ✓ Cooperation in Pharmaceuticals and Traditional Medicine
- ✓ Cooperation in Higher Education and Academic Exchange
- ✓ Cooperation in Tourism and Cultural Heritage
- ✓ Cooperation in Standardization, Metrology and Conformity Assessment
- ✓ Cooperation in Media and Information
- ✓ Cooperation in Sports

Historical and Cultural Relations:

- The relationship between India and Uzbekistan is rooted in centuries-old Silk Road civilisation and cultural exchanges.
 - » **Buddhist Heritage:** Ancient Buddhist sites such as Fayaz Tapa and Kara Tapa, located in Termez, Uzbekistan, reflect the deep historical and cultural connections between the two countries.
 - » **Cultural Exchanges:** During the recent summit, India announced technical assistance for the preservation of these ancient Buddhist sites. In addition, Sufism and Mughal history have contributed to strengthening people-to-people ties between the two countries.

Strategic Importance of Uzbekistan for India:

- **Gateway to Central Asia:** Uzbekistan is geographically located at the heart of Central Asia. It is the only Central Asian country that shares borders with all four other Central Asian countries as well as Afghanistan. Therefore, Uzbekistan is one of the most important links for the success of India's Connect Central Asia Policy.
- **Security and Counter-Terrorism Cooperation:** Both countries share intelligence to promote stability in Afghanistan and counter religious extremism. The two militaries regularly conduct the Exercise Dustlik, with its 7th edition concluding in April 2026.
- **Eurasian Integration:** Uzbekistan is an important partner for India in multilateral forums such as the Shanghai Cooperation Organisation (SCO) and the India-Central Asia Summit.

Major Challenges:

- **Geographical Constraints:** India does not have direct access to Central Asia because Pakistan does not permit transit routes for Indian connectivity towards the region.

- **Slow Progress on Chabahar Port and INSTC:** India is working to develop connectivity with Central Asia through Iran's Chabahar Port and the International North-South Transport Corridor (INSTC). However, geopolitical tensions have slowed progress on these connectivity initiatives.
- **Growing Chinese Influence:** China's economic and infrastructural dominance in Central Asia through the Belt and Road Initiative (BRI) represents a major diplomatic challenge for India.

Way Forward:

India needs to further deepen its relations with Uzbekistan by expediting transport connectivity through Chabahar Port. In addition, cooperation should be expanded in emerging areas such as space technology, defence production, and the digital economy (FinTech). These initiatives can help India strengthen its economic and strategic presence in Central Asia and provide a counterbalance to China's growing influence. The 2026 summit is therefore significant not only for advancing the economic interests of India and Uzbekistan but also for strengthening India's strategic presence in the wider Eurasian region.




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Environment & Ecology



India's Changing Approach to the Conservation of Grasslands and Open Natural Ecosystems

Context:

In August 2026, during the 17th Conference of the Parties (COP17) to the United Nations Convention to Combat Desertification (UNCCD), held in Ulaanbaatar, the capital of Mongolia, the Government of India released the country's first comprehensive Guidelines on India's Grasslands and Open Natural Ecosystems (ONEs). The document represents a paradigm shift in India's environmental policy.

For decades, policy approaches in India largely treated forests as the primary ecosystems worthy of conservation, while grasslands, savannas, and desert landscapes were often classified as "wastelands", partly reflecting a colonial legacy. The new guidelines not only provide scientific recognition to these Open Natural Ecosystems (ONEs) but also highlight their social, economic, and ecological significance and present a comprehensive roadmap for their conservation and management.

Open Natural Ecosystems (ONEs) and Distribution in India:

- Open Natural Ecosystems (ONEs) refer to landscapes where tree density is very low, generally less than 10%, and where grasses, shrubs, and other low-growing vegetation predominate. They are not degraded forests,

but distinct ecosystems that are the result of thousands of years of evolutionary adaptation to local climatic and ecological conditions.



- According to the guidelines prepared in collaboration with the Bengaluru-based Ashoka Trust for Research in Ecology and the Environment (ATREE), the Indian Space Research Organisation (ISRO), and the Indian Council of Forestry Research and Education (ICFRE), India's Open Natural Ecosystems include:
 - 24 distinct ecological categories:** These ecosystems cover approximately 10% of India's total geographical area, equivalent to around 3.2 lakh square kilometres.
 - Major geographical regions include:**

- » **Cold deserts and alpine grasslands:** Found in Ladakh and the high Himalayan regions, including bugyals.
- » **Terai grasslands:** Marshy and grass-dominated landscapes of the Indo-Gangetic plains.
- » **Banni and Thar savannas:** Extremely arid and semi-arid landscapes of Gujarat and Rajasthan.
- » **Semi-arid scrublands of the Deccan Plateau:** Dry interior regions of central and southern India.
- » **Chambal ravines:** Dissected ravine landscapes across Madhya Pradesh and Uttar Pradesh.
- » **Rocky plateaus and Shola grasslands of the Western Ghats:** Unique high-altitude ecosystems with distinctive ecological characteristics.

Multifaceted Importance of ONEs:

The comprehensive guidelines make it clear that Open Natural Ecosystems are critical to India's ecological stability and rural economy.

- **Ecological and Biodiversity Significance:**
 - » **Habitat for specialised species:** ONEs provide habitat for several species that cannot survive in dense forests. These include the critically endangered Great Indian Bustard, Lesser Florican, Indian Wolf, Blackbuck, Chital, and Caracal.
 - » **Role in the hydrological cycle:** Extensive root systems in grasslands function like natural sponges. They absorb excess monsoon rainfall, facilitate groundwater recharge, and help prevent soil erosion.
- **Climate Change and Carbon Sequestration:**
 - » **Underground carbon sinks:** Unlike forests, grasslands store a substantial proportion of their carbon below ground, particularly in their extensive root systems and soil organic matter.
 - » **Greater carbon persistence:** During wildfires or droughts, a significant amount of above-ground carbon stored in forests can be released into the atmosphere. In grasslands, much of

the carbon is stored underground and is therefore relatively protected from fire, making their soil carbon reserves potentially more persistent.

- **Socio-Economic and Cultural Significance:**

- » **Livestock Rearing and Livelihoods:** India has one of the world's largest livestock populations. Open Natural Ecosystems provide essential grazing and fodder resources for millions of pastoralists, herders, and nomadic communities, including the Rabaris of Rajasthan, Dhangars of Maharashtra, and Kurubas of Karnataka.
- » **Traditional Conservation Systems:** India also has a long cultural tradition of conserving open ecosystems through community-managed and sacred landscapes such as Orans, Gauchars, and Devbanis. These institutions demonstrate that local communities have historically played an important role in maintaining ecological balance and biodiversity.

Major Challenges Facing ONEs in India:

- **Colonial Classification as "Wastelands":** The colonial-era classification of many open landscapes as wastelands, reinforced by subsequent wasteland mapping and land-use practices, contributed to the perception that these areas were unproductive. As a result, governments have often made them available for industries, solar parks, wind-energy projects, and other infrastructure.
- **Misguided Afforestation Policies:** Under programmes such as the Green India Mission and compensatory afforestation through CAMPA, tree plantation has sometimes been promoted in grasslands and savannas where naturally low tree cover is an ecological characteristic. The introduction or spread of species such as *Prosopis juliflora* and, in some contexts, eucalyptus can alter hydrological conditions and adversely affect native biodiversity. This highlights the need to distinguish between forest restoration and grassland restoration.

- **Encroachment and Agricultural Expansion:** Expansion of irrigation infrastructure and agricultural activities has resulted in the conversion of several dry ONEs into agricultural land. In some regions, irrigation projects such as the Indira Gandhi Canal have significantly altered naturally arid and semi-arid landscapes.
- **Climate Change and Desertification:** Changing rainfall patterns, rising climatic variability, droughts, and unsustainable grazing pressures can degrade these ecosystems and reduce their carrying capacity. If ecological thresholds are crossed, degradation may accelerate processes associated with desertification.

India's Global Environmental Commitments:

- The release of the guidelines in Ulaanbaatar is also significant from the perspective of India's global environmental diplomacy.
 - » **Land Degradation Neutrality:** India has committed to restoring 26 million hectares of degraded land by 2030. Scientific identification, restoration, and sustainable management of ONEs can contribute significantly to achieving this target.
 - » **Kunming-Montreal Global Biodiversity Framework:** The Kunming-Montreal Global Biodiversity Framework includes the goal of conserving at least 30% of the world's terrestrial, inland water, coastal, and marine areas by 2030, commonly referred to as the 30×30 target.
- India can strengthen its contribution to this goal by recognising ecologically significant ONEs and, where they meet the relevant criteria, bringing them under appropriate Other Effective Area-Based Conservation Measures (OECMs) and other conservation frameworks.

Way Forward:

following corrective measures are required to translate the objectives regarding grasslands and open natural ecosystems into reality:

- **Revise the Wasteland Atlas:** India should

reconsider the use of the term "wasteland" in land-use classification and replace it with scientifically meaningful ecological categories. This would help prevent naturally open ecosystems from being treated as vacant or unproductive land.

- **Promote ecologically appropriate restoration:** Restoration should not automatically mean tree planting. Grassland and savanna restoration should prioritise native grasses, shrubs, and other naturally occurring vegetation appropriate to the ecosystem.
- **Empower pastoral communities:** Traditional grazing communities should be given greater recognition and participation in the management of community landscapes. Where legally applicable, the Forest Rights Act, 2006 and community forest resource provisions should be effectively implemented.
- **Regulate renewable-energy infrastructure:** Solar and wind-energy projects should avoid ecologically important ONEs wherever possible and instead prioritise genuinely degraded, already disturbed, or industrially unsuitable lands after rigorous ecological assessment.

Conclusion:

The guideline released by India in Mongolia is an acknowledgement that 'Green Cover' does not only mean 'Tree Cover'. Grasslands, savannas and ravines are precious gifts of nature, which not only absorb carbon but also provide sustenance to India's rural economy and wildlife. This document will prove to be a significant step towards making India's environmental agenda more inclusive, scientific, and sustainable.

Short Issues

India Emerges as Global Lepidoptera Hotspot

Context:

Recently, The Zoological Survey of India (ZSI) has published the "Catalogue of Lepidoptera (Butterflies & Moths) of India" in journal Zootaxa.

Key Findings:

- India is home to 13,703 species of Lepidoptera, representing 8.25% of the world's known butterfly and moth diversity. Of these, 1,417 are butterflies and 12,286 are moths.
- The catalogue documents 3,705 genera, 240 subfamilies, 102 families, and 31 superfamilies, providing an authoritative baseline for biodiversity research and conservation.
- It also records 2,205 species of Geometroidea, accounting for 8.8% of the world's known species in this superfamily.

What is Lepidoptera?

- Lepidoptera is the insect order comprising butterflies and moths. They share common features such as complete metamorphosis (egg-larva-pupa-adult), wings covered with microscopic scales, and a coiled feeding tube called a proboscis. Despite these similarities, they differ significantly in behaviour and anatomy:
 - » **Activity:** Butterflies are diurnal, whereas most moths are nocturnal.
 - » **Antennae:** Butterflies have club-shaped antennae, while moths possess feathery or comb-like antennae.
 - » **Resting Wings:** Butterflies hold their wings upright, whereas moths rest with their wings flat or tent-like.
 - » **Pupal Stage:** Butterflies form a chrysalis, while moths generally spin a silk cocoon.
 - » **Body:** Butterflies have slender, smooth bodies, whereas moths are generally thicker and hairier.

Ecological Importance:

- Lepidoptera are indispensable to ecosystem functioning. Butterflies pollinate flowers during the day, while moths perform night-time pollination, ensuring continuous pollination services.
- They also act as herbivores, detritivores, and an important food source for birds, bats, reptiles, and other insectivores.
- Their sensitivity to habitat degradation, pollution, and climate change makes them excellent bioindicators of ecosystem health.



Threats to Lepidoptera:

- Lepidoptera (butterflies and moths) are increasingly threatened by habitat destruction due to deforestation, urbanisation, and land-use changes, which reduce their breeding and feeding grounds.
- Climate change alters their distribution, life cycles, and interactions with host plants, while excessive pesticide use directly kills larvae and adults.
- Additionally, light pollution disrupts the behaviour and navigation of nocturnal moths, and invasive plant species replace native host plants, adversely affecting their survival.

Conservation Measures:

- Conservation of Lepidoptera requires habitat restoration and protection of forests, grasslands, and other natural ecosystems that support their life cycles.
- Promoting pollinator-friendly agriculture,

reducing pesticide use, and maintaining native vegetation are essential for sustaining their populations.

- Scientific monitoring through biodiversity inventories, along with public awareness and citizen science initiatives, can strengthen conservation efforts and improve understanding of these ecologically important insects.

About the Zoological Survey of India (ZSI):

Aspect	Details
Established	1916
Headquarters	Kolkata
Ministry	Ministry of Environment, Forest and Climate Change
Role	Premier institution for faunal exploration, taxonomy, and biodiversity assessment in India

Conclusion:

ZSI studies indicate that rising temperatures in the Himalayas are forcing several butterfly and moth species to shift to higher altitudes, reflecting the impacts of climate change. High-altitude explorations continue to discover new endemic species such as *Istrianis ladakhensis*, highlighting India's rich yet underexplored Lepidoptera diversity.

Meghalaya Launches Mission Clouded Leopard

Context:

Recently, the Government of Meghalaya launched Mission Clouded Leopard, a dedicated conservation programme for the mainland clouded leopard (*Neofelis nebulosa*), the State animal of Meghalaya. The mission will be implemented under the Meghalaya Clouded Leopard Action Plan, which is being prepared by the State Forest and Environment Department.

Why was the Mission Launched?

- The Mission aims to address the growing

threats faced by the clouded leopard and its habitat. The key reasons include:

- » Habitat loss and fragmentation due to shifting cultivation (Jhum), deforestation, mining, and infrastructure development.
- » Illegal poaching for its distinctive cloud-patterned skin and body parts.
- » Declining forest connectivity, affecting movement and genetic diversity.
- » Need for scientific monitoring through camera traps and environmental DNA (eDNA).
- » Promotion of community-led conservation in the biodiversity-rich forests of Northeast India.
- The Mission focuses on habitat protection and restoration, scientific research, long-term monitoring, stronger anti-poaching measures, landscape connectivity, capacity building of frontline forest staff, public awareness, and local community participation.

About the Clouded Leopard (*Neofelis nebulosa*):

- The Clouded Leopard is an evolutionarily ancient, medium-sized wild cat that forms an important evolutionary link between big cats (*Panthera*) and small cats (*Felinae*). It is considered an indicator species, reflecting the ecological health of tropical forest ecosystems.
- Distribution and Habitat:**
 - » **Global Distribution:** Himalayan foothills, mainland Southeast Asia, and Southern China.
 - » **Indian Distribution:** Northeastern states including Arunachal Pradesh, Assam, Meghalaya, Mizoram, Nagaland, Manipur, Tripura, and northern West Bengal.
 - » **Habitat:** Dense tropical evergreen forests, subtropical forests, and dry woodlands up to 7,000 feet.
 - » **Important Habitats:** Namdapha National

Park (Arunachal Pradesh) and Dampa Tiger Reserve (Mizoram) are among the most important habitats for the species.

MEGHALAYA LAUNCHES MISSION CLOUDED LEOPARD



A dedicated conservation programme for the mainland clouded leopard (*Neofelis nebulosa*), the State animal of Meghalaya.

The mission will be implemented under the Meghalaya Clouded Leopard Action Plan, which is being prepared by the State Forest and Environment Department.

CONTEXT

The Government of Meghalaya has launched **Mission Clouded Leopard** to ensure the conservation of the mainland clouded leopard (*Neofelis nebulosa*).

This mission is a major step by the State Forest and Environment Department towards preparing the "Meghalaya Clouded Leopard Action Plan" and conserving the State's forests and biodiversity.

ABOUT THE CLOUDED LEOPARD

- Scientific Name:** *Neofelis nebulosa*
- Type:** Mainland species
- Habitat:** Dense forests, hills and subtropical regions
- IUCN Status:** Vulnerable
- Distribution in India:** Found in the North-East, especially in forests of Arunachal Pradesh, Assam, Meghalaya, Mizoram and Tripura

KEY OBJECTIVES OF MISSION CLOUDED LEOPARD

- Conserve the clouded leopard and its habitat
- Protect forest ecosystems and enhance habitat quality
- Promote scientific research, monitoring and data collection
- Strengthen local communities' participation and livelihoods
- Combat poaching and illegal wildlife trade
- Build partnerships with NGOs, institutions and stakeholders

SIGNIFICANCE OF THE MISSION

- The State animal holds immense ecological, cultural and conservation value.
- It helps maintain a balanced ecosystem by controlling prey population and supporting forest health.
- The species is an indicator of a healthy forest ecosystem.
- Its conservation ensures the preservation of biodiversity and the natural heritage of Meghalaya.

KEY COMPONENTS OF THE ACTION PLAN

- Habitat assessment, mapping and conservation of core areas
- Camera trapping, monitoring and scientific surveys
- Awareness, capacity building and education of local communities
- Anti-poaching measures and strengthening law enforcement
- Policy support, coordination and effective implementation

»

Key Characteristics:

- Highly arboreal and nocturnal.
- Possesses rotating rear ankles, enabling it to descend trees head-first.
- Has the longest upper canine teeth relative to skull size among living cats, earning it the nickname "modern sabre-tooth."
- Its long tail provides excellent balance while moving through tree canopies.
- It is the State Animal of Meghalaya.

Conservation Status:

- IUCN Red List:** Vulnerable
- CITES:** Appendix I
- Wildlife (Protection) Act, 1972:** Schedule I (Highest legal protection)

Conclusion:

Mission Clouded Leopard represents a landmark initiative in India's wildlife conservation efforts by combining scientific research, habitat restoration, and community participation. As an indicator of healthy forest ecosystems, conserving the clouded leopard will also help protect the biodiversity of the Northeast.

Slender-Billed Vultures Bred in Captivity Released into the Wild

Context:

Recently, five captive-bred slender-billed vultures (*Gyps tenuirostris*) have been released into the wild in Assam, marking the first known release of captive-bred slender-billed vultures anywhere in the world. The release was carried out at the Jatayu Soft Release Centre in the Biswanath Division of Kaziranga National Park and Tiger Reserve.

About Slender-Billed Vultures:

Feature	Slender-billed Vulture
Scientific name	<i>Gyps tenuirostris</i>
IUCN Status	Critically Endangered
Indian legal protection	Schedule I, Wildlife Protection Act, 1972
Distribution	Indian subcontinent and parts of Southeast Asia
Indian habitat	Sub-Himalayan plains, Assam and Gangetic plains
Nesting	Mainly tall trees
Major threat	Veterinary diclofenac poisoning

Why is the release significant?

- The slender-billed vulture is one of the Gyps vultures whose population suffered a dramatic decline because of the widespread use of veterinary diclofenac.
- Vultures feeding on carcasses of livestock treated with diclofenac can develop kidney

failure and visceral gout, often resulting in death.

- Therefore, captive breeding and subsequent release are important components of rebuilding wild populations.



About Bombay Natural History Society:

- The Bombay Natural History Society (BNHS) is one of India's prominent non-governmental organisations working in wildlife research, biodiversity conservation and nature education.
 - » **Founded:** 15 September 1883
 - » **Headquarters:** Hornbill House, Mumbai
 - » **Emblem:** Great Hornbill
 - » **International association:** Partner of BirdLife International

Role of BNHS:

- The Bombay Natural History Society (BNHS) has been involved in conservation-breeding programmes for threatened vultures.
- The birds released in Assam were bred at the Vulture Conservation Breeding Centre at Rani near Guwahati. Before release, the vultures were shifted to an acclimatisation aviary for about three months.
- The soft-release approach allows captive-bred birds to gradually adapt to natural environmental conditions before complete independence in the wild.

Major Threats to Vultures:

- **Veterinary diclofenac**
 - » The most important historical cause of the decline of Gyps vultures.
 - » Contaminated livestock carcasses

expose vultures to the drug.

- » Causes renal failure and visceral gout.

- **Habitat degradation**

- » Loss of large nesting trees.
- » Agricultural expansion and other land-use changes can reduce suitable nesting and feeding areas.

- **Food availability and contamination**

- » Changes in livestock carcass disposal practices can affect food availability.
- » Other veterinary pharmaceuticals can also pose risks.

Conservation Measures in India:

- India has adopted several measures for vulture conservation:
 - » Ban/restriction on veterinary diclofenac to reduce poisoning.
 - » Establishment of vulture conservation breeding centres.
 - » Captive breeding followed by release into suitable habitats.
 - » Monitoring of wild vulture populations.
 - » The Vulture Action Plan provides a broader framework for conservation of India's vulture species.

Declining Hydropower Reservoir Levels and India's Energy Security

Context:

In recent times, Reservoir levels at India's major hydroelectric power plants have fallen to their lowest levels for the April–July period since 2023, primarily due to erratic weather conditions associated with El Niño. According to the Ministry of Power, reduced water availability has adversely affected hydropower generation, raising concerns over electricity supply, especially during peak demand.

Background:

- Hydropower is a crucial component of India's energy mix, providing clean, renewable, and flexible electricity. It plays a vital role in

meeting peak evening demand, particularly when solar power generation declines after sunset. However, deficient monsoon rainfall and uneven precipitation patterns have significantly reduced reservoir storage across the country.

Key Highlights:

- Out of 30 major hydropower reservoirs, 23 recorded lower water levels during April 1–July 30, 2026, compared to the same period last year.
- Electricity generation from large hydropower plants declined by 10.75%, falling from 60,522.95 Million Units (MU) to 54,019.42 MU.
- The energy content of reservoirs, which indicates the electricity generation potential stored in water, declined by 43% year-on-year, 39% compared to 2024, and 17% compared to 2023.
- The southern region experienced the sharpest decline, with reservoir energy content falling by 63%, followed by eastern (28%), northern (25%), north-eastern (22%), and western (13%) regions.

Role of El Niño:

- El Niño is the abnormal warming of sea surface temperatures in the central and eastern equatorial Pacific Ocean, which disrupts global atmospheric circulation.
- In India, El Niño is generally associated with weaker southwest monsoon rainfall, resulting in reduced inflows into reservoirs, lower hydropower generation, increased irrigation demand, and higher electricity consumption for cooling purposes.

Implications:

- Lower hydropower generation has increased India's dependence on coal-based thermal power.
- Coal-fired electricity generation rose by 9.49% during April–July 2026 and by over 13% during July alone to compensate for the shortfall in hydroelectric output.
- Greater reliance on coal increases

greenhouse gas emissions, raises fuel costs, and challenges India's commitments towards clean energy transition and climate goals.

- Reduced reservoir storage also affects irrigation, drinking water availability, and overall water security.

Way Forward:

- India should strengthen integrated water resource management and improve reservoir operations through advanced forecasting and efficient water management systems.
- Additionally, it will be necessary to diversify renewable energy sources alongside energy storage systems, expand pumped-storage hydroelectric projects, reduce peak electricity demand by promoting energy efficiency, establish better coordination among water, energy, and meteorological agencies, and develop climate-resilient infrastructure.

Conclusion:

The sharp decline in hydropower reservoir levels highlights the growing vulnerability of India's energy sector to climate variability. Building a resilient power system through diversified energy sources, efficient water management, and climate-adaptive planning will be critical for ensuring reliable electricity supply while advancing India's clean energy transition.

India Crosses 300 GW of Non-Fossil Fuel Power Capacity

Context:

Recently, India has crossed the milestone of 300 GW of installed non-fossil fuel-based electricity generation capacity, reaching 300.50 GW as of July 31, 2026. This represents more than 60% of India's target of 500 GW of non-fossil fuel capacity by 2030. India's total installed electricity generation capacity is around 552 GW, meaning non-fossil sources now constitute more than 54% of total installed capacity.

What is Non-Fossil Fuel Capacity?

- Non-fossil sources include both renewable and nuclear energy. They comprise:
 - » Solar energy – 164.59 GW
 - » Wind energy – 58.14 GW
 - » Hydropower – 57.24 GW
 - » Bio-power – 11.75 GW
 - » Nuclear power – 8.78 GW
- Solar has emerged as the largest contributor, accounting for more than half of India's non-fossil capacity.

Major Growth in Renewable Energy:

- India's solar capacity has increased from just 2.8 GW in 2014 to around 165 GW in 2026, while wind capacity increased from 21 GW to 58.14 GW during the same period.
- India added a record 55.29 GW of non-fossil capacity during 2025-26, including 44.6 GW of solar and 6 GW of wind capacity.

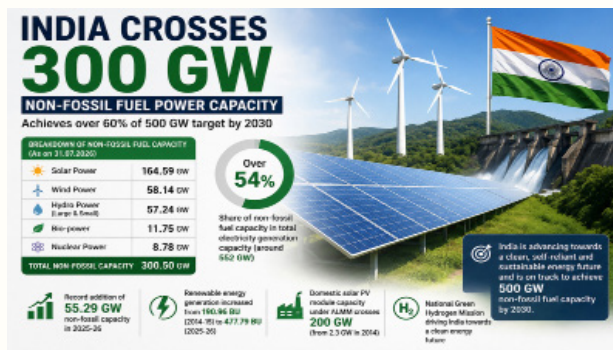
India's 500 GW Target:

- India aims to achieve 500 GW of installed non-fossil fuel-based electricity capacity by 2030. With the current capacity at 300.50 GW, around 199.5 GW more needs to be added.
- This target forms part of India's Panchamrit commitments announced at COP26, which include achieving 500 GW of non-fossil energy capacity by 2030 and net-zero emissions by 2070.
- India has already achieved its earlier Paris Agreement commitment of having at least 40% of installed electricity capacity from non-fossil sources, ahead of schedule.

International Climate Commitments:

- **Paris Agreement, 2015:** Under its Nationally Determined Contributions (NDCs), India committed to achieving about 50% cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030.
- **COP26 and Panchamrit:** At COP26 in Glasgow, India announced five major climate commitments, including:

- » 500 GW of non-fossil energy capacity by 2030.
- » Meeting 50% of energy requirements from renewable energy by 2030.
- » Reducing projected carbon emissions by 1 billion tonnes by 2030.
- » Reducing the carbon intensity of the economy by 45% by 2030.
- » Achieving Net Zero emissions by 2070.



Government Initiatives:

- The expansion has been supported by several measures:
 - » PM Surya Ghar Muft Bijli Yojana
 - » PM-KUSUM
 - » Production Linked Incentive (PLI) Scheme for high-efficiency solar PV modules.
 - » National Green Hydrogen Mission
 - » Waiver of Inter-State Transmission System (ISTS) charges for eligible renewable energy projects.
 - » Development of Battery Energy Storage Systems (BESS) and Pumped Storage Plants (PSPs).
 - » Domestic solar manufacturing has also expanded significantly, with capacity under the Approved List of Models and Manufacturers (ALMM) crossing 200 GW.

Key Challenges:

Despite the progress, India's energy transition faces several challenges:

- **Coal dependence:** Coal continues to provide the majority of actual electricity generation.

- **Intermittency:** Solar and wind generation varies with weather and time of day.
- **Energy storage:** Large-scale storage is required for grid stability.
- **Transmission constraints:** Renewable-rich regions require stronger transmission infrastructure.
- **Land and environmental concerns:** Renewable projects can face land acquisition and ecological challenges.
- **Financing:** Large-scale renewable and storage projects require substantial investment.

Way Forward:

- India needs to focus on energy storage, smart grids, transmission infrastructure, domestic manufacturing, green hydrogen and flexible power generation. A balanced transition should combine rapid renewable expansion with grid stability, energy security and affordable electricity.

Conclusion:

Crossing 300 GW of non-fossil capacity marks a significant milestone in India's energy transition. However, the real challenge lies in converting installed capacity into reliable clean electricity while reducing coal dependence. Achieving the 500 GW target by 2030 and net-zero emissions by 2070 will require technological innovation, large-scale investment, robust transmission infrastructure and a just, affordable and sustainable energy transition.

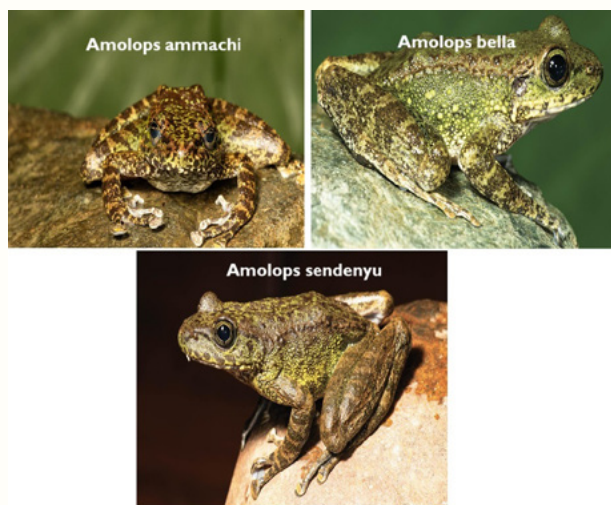
Three New Cascade Frog Species Discovered in Northeast India

Context:

Recently, Scientists have discovered three new species of cascade frogs in Northeast India and recorded five additional species in India for the first time. The findings were published in the Bulletin of the Museum of Comparative Zoology after more than 15 years of field research.

Key Findings of study:

- The study was led by Prof. S. D. Biju, University of Delhi.
- Researchers examined 300+ geographic populations of frogs inhabiting fast-flowing forest streams.
- DNA analysis, along with morphological studies of adult frogs and tadpoles, confirmed three new species:
- Ammachi's Cascade Frog (*Amolops ammachi*) – Tripura
- Sendenyu Cascade Frog (*Amolops sendenyu*) – Nagaland
- Beautiful Cascade Frog (*Amolops bella*) – West Bengal



Naming of the New Species:

- *Amolops ammachi* was named after Padmini Varkey, a late Kerala social worker and philanthropist popularly known as 'Ammachi', in recognition of her humanitarian work.
- *Amolops sendenyu* is named after Sendenyu Village in Nagaland.
- *Amolops bella* means 'beautiful', referring to its striking green, mosaic-like appearance.

Five Species Recorded in India for the First Time:

- The study also reported five cascade frog species in India for the first time:

- » Amolops afghanus
- » Amolops nepalicus
- » Amolops wangyali
- » Amolops medogensis
- » Amolops bellulus
- Thus, the study significantly expands the known diversity and geographical distribution of the genus Amolops in India.

Ecological Significance:

- Cascade frogs are specialised for living in fast-flowing streams, waterfalls and rocky cascades. They possess:
 - » Strong limbs for navigating turbulent water
 - » Adhesive toe pads for gripping wet rocks
 - » Streamlined bodies suited to aquatic habitats
- Their dependence on clean, oxygen-rich streams makes them useful indicators of freshwater ecosystem health.

Conservation Concerns:

- Despite their ecological importance, cascade frogs face threats from:
 - » Water pollution
 - » Deforestation
 - » Hydropower projects
 - » Habitat modification and fragmentation
 - » Climate change
 - » Disturbance of forest-stream ecosystems

Significance for India:

- Northeast India is part of the Indo-Burma biodiversity hotspot and contains exceptionally rich amphibian diversity. The discovery highlights the importance of:
 - » Biodiversity documentation and taxonomic research
 - » Protection of forest streams and riverine habitats
 - » Ecological monitoring of freshwater ecosystems
 - » Sustainable development in ecologically sensitive regions
 - » Conservation of lesser-known amphibian species

Odisha Coastal Erosion

Context:

Recently, Union Minister for Ports, Shipping and Waterways informed in the Rajya Sabha that 28.3% of Odisha's 564-km coastline is undergoing erosion, based on the National Centre for Coastal Research (NCCR) assessment for 1990–2022.

What is Erosion?

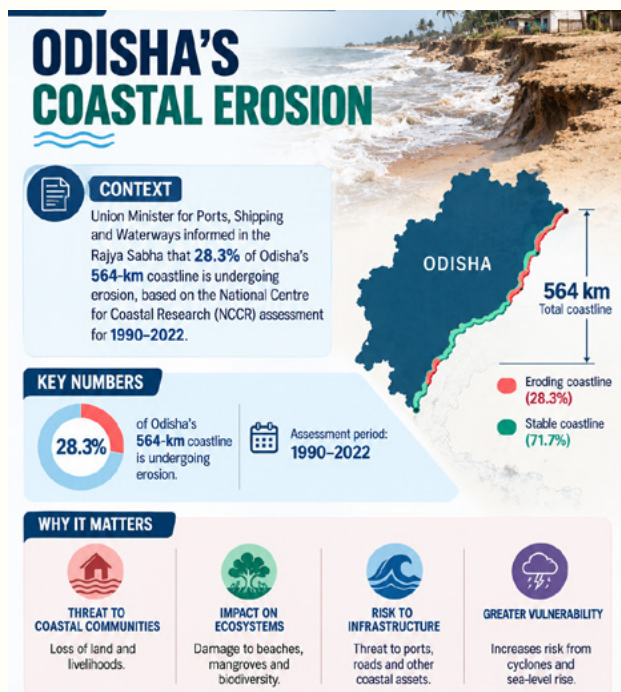
- Erosion is the geological and geomorphological process in which soil, rock and other earth materials are worn away and transported by natural agents such as running water, wind, glaciers and waves.
- it is important to distinguish erosion from weathering:
 - » **Weathering:** In-situ breakdown of rocks without transportation.
 - » **Erosion:** Removal and transportation of weathered material by an active agent.
- Erosion may be:
 - » **Geological erosion:** Slow, natural erosion occurring at a rate broadly compatible with soil formation.
 - » **Accelerated erosion:** Rapid erosion caused or intensified by human activities such as deforestation, overgrazing and faulty agricultural practices.

Types of Soil and Water Erosion:

- **Splash/Raindrop erosion:** Raindrops dislodge soil particles from exposed surfaces.
- **Sheet erosion:** A relatively uniform layer of topsoil is removed by surface runoff.
- **Rill erosion:** Concentrated runoff creates small, shallow channels.
- **Gully erosion:** Rills develop into deeper channels, making land difficult to cultivate. The Chambal ravines are a classic example.
- **Coastal erosion:** Waves, currents, tides and storm surges remove coastal sediments, causing shoreline retreat.

Extent of Coastal Erosion:

- The NCCR assessment shows that 17.6% of Odisha's coastline is stable, while 54.1% is experiencing accretion. Among coastal districts, Jagatsinghpur is the most erosion-prone, with 47.6% of its coastline affected, followed by Ganjam (45.7%) and Kendrapara (45%).
- Other affected districts include Balasore, Puri and Bhadrak.
- Coastal erosion has emerged as a major livelihood and displacement challenge. Government officials have reported that sea-level rise and erosion have already submerged 16 villages in Kendrapara, displacing several hundred people.
- In Ganjam, Podampeta, once inhabited by nearly 500 households, has been deserted as the sea advanced inland. Such displacement affects not only housing but also fishing, agriculture and other sources of livelihood.



Government Measures:

- **Geotextile tube embankment:** At Penthia in Kendrapara, geotextile tubes filled with sand slurry are being used as coastal defence structures to absorb wave energy and reduce erosion.
- **Sea wall-cum-service roads:** Such structures are being developed at vulnerable stretches in Balasore and Ganjam. They combine coastal protection with transportation and public access.
- **Climate-resettlement:** Odisha has established a resettlement colony for people displaced by coastal erosion in Kendrapara, highlighting the importance of planned climate adaptation.

Way Forward:

A long-term strategy should combine hard engineering with ecosystem-based approaches such as mangrove restoration, dune conservation and protection of natural sediment flows. Scientific shoreline monitoring, regulation of sand mining, climate-resilient infrastructure, early-warning systems and participatory coastal-zone management are also essential.

Conclusion:

Odisha's coastal erosion demonstrates that climate change is increasingly becoming a human security and livelihood issue. Effective coastal management must therefore balance development with ecological resilience while ensuring safe and dignified adaptation for

Major Causes:

- Coastal erosion is driven by both natural and anthropogenic factors:
 - » Rising sea levels due to climate change
 - » Cyclones, storm surges, waves and tidal action
 - » Construction of ports, harbours, seawalls and breakwaters, which can alter sediment movement
 - » Sand mining and unplanned coastal infrastructure
 - » Changes in coastal sediment dynamics
 - » Odisha is particularly vulnerable because of its exposure to Bay of Bengal cyclones and storm surges.

Impact on People:

vulnerable communities.

ICAR Registers 16 New Indigenous Animal Breeds

Context:

Recently, The Indian Council of Agricultural Research (ICAR) has registered 16 new indigenous breeds, strengthening efforts to document, conserve and sustainably use India's animal genetic resources. The registrations were recommended at the 14th meeting of ICAR's Breed Registration Committee, held in New Delhi on 7 August 2026.

What are the 16 newly registered indigenous breeds?

- The 16 breeds cover nine species across 13 States and one Union Territory:
 - » **Cattle:** Koppal (Karnataka), Mahakaushali (Madhya Pradesh), Periyar (Kerala), Umarda (Maharashtra)
 - » **Buffalo:** Gomanchali (Goa)
 - » **Goat:** Battisi (Rajasthan and Uttar Pradesh), Totapuri (Rajasthan)
 - » **Sheep:** Asomi (Assam), Kow Debar (Uttarakhand), Madgyal (Maharashtra and Karnataka), Seemanchali (Bihar)
 - » **Donkey:** Braj (Uttar Pradesh)
 - » **Horse/Pony:** Kashmiri (Jammu & Kashmir)
 - » **Pig:** Nagal (Nagaland)
 - » **Yak:** Sikkimese (Sikkim)
 - » **Dog:** Kombai (Tamil Nadu)
- Each breed has been assigned a unique accession number by ICAR-NBAGR, creating an official scientific record.

Why is ICAR's Breed Registration Important?

- Breed registration supports the documentation, conservation and sustainable utilization of indigenous animal genetic resources. Locally adapted breeds may possess valuable traits such as climate adaptability, disease tolerance and

suitability for low-input farming.

- Such genetic diversity can also support rural livelihoods, selective breeding, climate resilience and future livestock improvement.

What is ICAR?

- The Indian Council of Agricultural Research (ICAR) was established on 16 July 1929 and is an autonomous body under the Ministry of Agriculture and Farmers Welfare, Government of India.
- It is the apex organization for planning, guiding and managing research and education in agriculture, horticulture, fisheries and animal sciences.
- **Key Mandate of ICAR:** ICAR's major responsibilities include:
 - » **Research and Extension:** Promoting innovation and sustainable agricultural development through a nationwide network, including 700+ Krishi Vigyan Kendras (KVKs).
 - » **Technology Generation:** Developing productive and climate-resilient technologies and crop varieties to strengthen food security.
 - » **Education:** Setting standards for higher agricultural education and accrediting institutions.
 - » **Capacity Building:** Connecting scientific research with farmers and strengthening field-level agricultural knowledge.

Role of ICAR-NBAGR-

- The ICAR-National Bureau of Animal Genetic Resources (NBAGR), Karnal, is the nodal institution for breed registration in India. It scientifically characterizes animal populations and maintains official breed records.

India's Registered Breed Base Reaches 262-

- With the latest additions, ICAR-NBAGR's registered breed base has reached 262, including 258 indigenous and four synthetic breeds. This reflects the continuing effort to identify and scientifically document India's

diverse animal populations.

Climate Resilience and Conservation:

- Indigenous breeds can be valuable under changing climatic conditions because many are adapted to local heat, disease and environmental stresses. Conserving them maintains genetic options for future breeding and sustainable livestock production.

Conclusion:

The registration of 16 new indigenous breeds marks an important step in protecting India's animal genetic heritage. From Koppal cattle and Madgyal sheep to the Sikkimese yak, Nagal pig, Kashmiri pony and Kombai dog, the new additions showcase India's extraordinary biological diversity. Their conservation can contribute to biodiversity, climate resilience, sustainable agriculture, rural livelihoods and long-term food security.

Jojari River Crisis

Context:

On 24 August 2026, the Supreme Court imposed an interim ban on construction and development activities within 100 metres of the banks of the Jojari River in Rajasthan. A Bench comprising Justice Vikram Nath and Justice Sandeep Mehta passed the order in a Suo Motu case concerning pollution and ecological degradation in the Jojari River system. The restriction will remain in force until the High Flood Line (HFL) of the river and the required ecological buffer zone are scientifically determined and demarcated. The matter will next be heard on 22 September 2026.

Ecological Significance of the Jojari River:

- The Jojari River is an important seasonal river associated with the Luni River system. In the arid and semi-arid regions of western Rajasthan, seasonal rivers play a significant role in local drainage, groundwater recharge, agriculture and ecological balance.
- In arid regions, the importance of rivers is

not determined solely by their permanent water flow. During rainfall, their flow influences local water storage, wetland formation, soil moisture and groundwater recharge. Therefore, degradation of such river systems can adversely affect the region's long-term water security.



Pollution in the Jojari River:

- The crisis facing the Jojari River is primarily associated with industrial effluents, domestic sewage and inadequate waste management. In particular, wastewater discharged from industrial areas can seriously affect water quality if it enters the river system without adequate treatment.
- Various reports of the Rajasthan State Pollution Control Board have recorded concerns related to Biochemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), suspended solids and other pollutants in the Jojari River region. In some areas, the use of polluted water for agriculture may also adversely affect soil quality, crop productivity and food security.

Importance of the High Flood Line (HFL):

- The High Flood Line (HFL) indicates the boundary up to which the water of a river may spread during a flood. Scientific determination of the HFL is crucial for identifying floodplains and regulating land use.
- When construction takes place on floodplains due to unplanned urbanisation and industrial expansion, the river's water-

carrying capacity may be affected, potentially increasing flood risks. Therefore, HFL-based planning is essential for both disaster risk reduction and river conservation.

Challenges of River Conservation in India:

- The case of the Jojari River highlights several structural challenges faced by river systems across India:
 - » **Encroachment along riverbanks:** Unplanned urbanisation and industrial expansion adversely affect natural floodplains.
 - » **Inadequate waste management:** Untreated or inadequately treated sewage and industrial effluents deteriorate river water quality.
 - » **Fragmented governance:** Lack of coordination among various departments and institutions involved in river conservation often limits the effectiveness of conservation efforts.
 - » **Absence of scientific demarcation:** In many river systems, the HFL, flood-prone areas and ecological buffer zones have not been adequately determined through scientific assessment.
 - » **Lack of catchment-based planning:** Instead of viewing a river only within the administrative boundaries of a city or district, it should be managed as an integrated catchment–river–floodplain system.

Conclusion:

The Supreme Court's interim order concerning the Jojari River sends an important message for river conservation and floodplain management in India. It highlights that ignoring the natural flow of rivers, ecological limits and floodplains in the pursuit of development can create serious long-term risks to water security and livelihoods. Therefore, the conservation of the Jojari River should not remain limited to compliance with a judicial order. It should evolve into a long-term river management model based on scientific assessment, pollution control, water reuse,

floodplain protection and public participation. Such an approach can also provide a useful framework for the revival of other polluted and distressed river systems across India.

Centre Proposes Complete Ban on Carbosulfan Insecticide

Context:

Recently, The Central government has proposed a complete ban on Carbosulfan, an insecticide used in paddy, cotton and horticultural crops, citing concerns over its toxicity, human-health risks and environmental impacts. The proposal has been issued through a draft Gazette notification by the Ministry of Agriculture and Farmers Welfare.

What is Carbosulfan?

- Carbosulfan is a carbamate-group insecticide used to control various agricultural pests. It has been used particularly in paddy, cotton and horticultural crops. The proposed ban would prohibit its import, manufacture, sale, transport, distribution and use in India.

Why has the Government Proposed the Ban?

- The government constituted an expert committee in January 2026 to examine whether Carbosulfan should continue to be permitted, subjected to stricter regulation or banned. The committee submitted its report in June 2026.
- The Registration Committee (RC) subsequently recommended a ban, citing concerns that Carbosulfan can break down into carbofuran, a highly hazardous substance that can adversely affect human health, birds, aquatic organisms and the environment.
- The proposed action is part of India's broader effort to ensure safer use of agricultural chemicals.



Impact on Farmers:

- The ban could affect farmers who currently depend on Carbosulfan for pest management. Therefore, the transition should ensure:
 - » Availability of safe and affordable alternatives.
 - » Greater adoption of Integrated Pest Management (IPM).
 - » Training on proper pesticide use and dosage.
 - » Promotion of biological and other sustainable pest-control methods.

About Pesticide Regulation in India:

- India primarily regulates insecticides under the Insecticides Act, 1968.
 - » **Central Insecticides Board (CIB):** Advises governments on technical matters.
 - » **Registration Committee (RC):** Examines the efficacy and safety of insecticides before registration.
 - » **State Governments:** Enforce regulations through insecticide inspectors and licensing authorities.

Why is Pesticide Regulation Important?

- Public Health:** Unsafe pesticide use can expose farmers and consumers to harmful residues.
- Environmental Protection:** Pesticides may harm non-target organisms such as bees, birds, earthworms and aquatic life.
- Farmer Welfare:** Strong regulation can prevent the circulation of fake, adulterated and unsafe agricultural chemicals.
- Sustainable Agriculture:** Reducing excessive chemical dependence supports long-term soil and ecosystem health.

Major Challenges:

- Outdated legal framework:** The Insecticides Act, 1968, needs updating to address modern agricultural technologies.
- Enforcement gaps:** Shortages of inspectors, laboratories and technical capacity weaken implementation.
- Spurious pesticides:** Fake and adulterated products can cause crop losses and financial hardship.
- Chemical dependence:** Excessive pesticide use can contribute to pest resistance and ecological damage.
- Pending reforms:** The proposed Pesticide Management Bill seeks stronger regulation and penalties but has faced delays.

Way Forward:

India should adopt a science-based, farmer-sensitive pesticide policy combining strict risk assessment with affordable alternatives. Strengthening laboratories, pesticide-residue monitoring, state enforcement and Integrated Pest Management can reduce risks without compromising agricultural productivity.

Conclusion:

The proposed Carbosulfan ban highlights India's need to move towards safer and more sustainable pest management. A successful policy must combine regulation with farmer awareness, affordable alternatives and effective enforcement.



Science & Technology



NASA's Moon Base Programme and India: A New Direction for Space Capability Building

Context:

Recently, the National Aeronautics and Space Administration (NASA) invited the Indian Space Research Organisation (ISRO) to participate in its plans to establish a long-term human and robotic presence on the Moon. The proposal comes at a time when India is developing capabilities related to human spaceflight, lunar exploration and the Bharat Antariksh Station (BAS).

India signed the Artemis Accords in 2023. However, signing the Artemis Accords does not, by itself, guarantee a country's participation in NASA's Artemis programme. In this context, the key question is: If India gets a more active role in future lunar missions and potential Moon Base-related activities, how and in what ways could this benefit India's scientific and technological capabilities?

What is NASA's Lunar Exploration Plan?

- NASA's broader Artemis programme is focused on developing a long-term human and robotic presence on the Moon. Its objective is not merely to send humans to the Moon, but also to develop the infrastructure and capabilities

required for scientific research, technology demonstrations and sustained future activities.

- This includes lunar orbital operations, human landing systems, robotic missions, and the development of capabilities related to energy, habitation and transportation on the lunar surface. According to NASA, technologies such as In-Situ Resource Utilisation (ISRU) and advanced robotics will be important for future long-term lunar activities.



Why is the Lunar South Pole Important?

- The lunar South Pole is particularly significant from both scientific and technological perspectives. It contains Permanently Shadowed Regions (PSRs) where indications of the presence of water

ice have been detected.

- If future missions can identify, extract and utilise these resources in sufficient quantities in a technically and economically viable manner, water could potentially be used in life-support systems. However, determining the quantity and distribution of these resources, along with the cost of extraction and energy requirements, remains an important challenge.
- The region is particularly significant for India because Chandrayaan-3 successfully achieved a soft landing near the lunar south polar region, demonstrating India's capabilities in lunar landing and robotic exploration.

What Technologies Will Be Required for a Moon Base?

- **In-Situ Resource Utilisation (ISRU):** The ability to utilise local resources could be important for reducing the cost of future lunar missions. This may include extracting oxygen from lunar soil or regolith and utilising available water ice. For India, this could provide opportunities to undertake research in technologies related to resource identification, extraction, processing and storage.
- **Autonomous Robotics and AI:** Due to communication delays, challenging terrain and limited human presence on the Moon, rovers and other systems will need to become increasingly autonomous. Collaboration in areas such as AI-based navigation, machine vision, autonomous decision-making and robotic manipulation could strengthen India's capabilities in robotics.
- **Precision Landing and Navigation:** The terrain around the lunar South Pole is challenging. Therefore, technologies such as hazard detection, terrain-relative navigation and autonomous landing will be required for safe landing operations. The experience gained from Chandrayaan-3 provides an important foundation for India in this area. However, additional testing and validation will be necessary for more complex and

human-related missions.

- **Energy and Life-Support Systems:** A long-term lunar presence will require reliable energy systems, thermal control, radiation protection, oxygen supply, water recycling and waste management. The objective will be to develop systems capable of operating for extended periods with limited supplies from Earth.
- **Lunar Dust and Communications:** Fine lunar regolith dust could pose challenges to equipment, spacesuits and sealing systems. Therefore, technologies related to dust mitigation, protective materials and equipment sealing will be important. Similarly, advanced communication systems will be required for reliable communication and data transmission between the lunar surface, Earth and lunar orbit.

What Benefits Could India Gain?

- **Accelerating Technological Capabilities:** Meaningful participation in international missions could provide India with experience in joint development, testing and operations, rather than merely making it a user of already-developed technologies. This could accelerate the development of capabilities in areas such as human spaceflight, robotics, life-support systems, navigation and communications. However, technological benefits will not automatically accrue. They will depend on the level of technical responsibility assigned to India, access to mission data and the extent of research collaboration.
- **Gaganyaan and the Bharat Antariksh Station:** Experience with human-related systems in lunar missions could be useful for India's own human spaceflight programme. Experience gained in areas such as long-duration life-support, operations, emergency management and human-machine collaboration could be relevant to future projects such as the Bharat Antariksh Station (BAS).
- **Scientific Research:** Geological, mineralogical and water-ice-related data from the lunar

South Pole could contribute to a better understanding of the Moon's origin and the early Solar System. Indian scientific institutions could also gain opportunities for broader access to data and international research collaboration through participation in global lunar missions.

- **Private Space Sector:** Demand for communications, robotics, sensors, software, propulsion systems and scientific instruments for lunar missions could create new R&D and commercial opportunities for India's private space industry. However, the actual benefits will depend on strengthening domestic testing facilities, investment, skilled manpower and industry-academia collaboration.

What Can India Contribute?

- India should seek to develop its role not merely as a recipient of technology, but also as a technology contributor.
- India's potential areas of expertise include cost-effective space missions, precision landing, robotic exploration, scientific instruments, autonomous navigation, software, communication systems and resource mapping.
- The experience gained from the Chandrayaan missions can be leveraged for future international missions.

Challenges:

- The biggest challenge will be maintaining a balance between strategic autonomy and international cooperation. Excessive dependence on external partners could constrain India's independent space capabilities.
- Therefore, indigenous capabilities in launch vehicles, propulsion, navigation, communications and spacecraft systems need to be strengthened in parallel.
- In addition, international laws and norms governing the utilisation of lunar resources are still evolving. Transparent and rules-based arrangements will therefore be necessary regarding resource utilisation, scientific data, coordination of activities and

potential competition.

- The Artemis Accords provide a framework of principles for responsible and peaceful international cooperation in space.

Way Forward:

- India should view cooperation associated with Artemis not as an alternative to its independent space strategy, but as an opportunity for capacity building. To this end:
 - » Human spaceflight capabilities associated with Gaganyaan and BAS should be strengthened.
 - » Special emphasis should be placed on R&D in ISRU, robotics, AI and autonomous navigation.
 - » Technologies related to lunar dust mitigation, energy systems, life-support and habitation should be tested and developed.
 - » Greater participation of Indian private companies, universities and research institutions should be encouraged.
 - » Alongside cooperation with the United States, India should continue to maintain and expand partnerships with other international spacefaring nations.

Conclusion:

The growing global effort towards establishing a long-term human presence on the Moon is not merely a matter of space diplomacy for India; it also represents an opportunity to develop advanced space technologies. If India secures a meaningful technical role in future lunar missions, its capabilities in In-Situ Resource Utilisation (ISRU), robotics, human spaceflight, autonomous systems and life-support technologies could be strengthened. However, the actual benefits will depend on the nature of cooperation, the level of India's participation and its ability to absorb and build upon the technologies developed through such partnerships. Therefore, India should pursue a strategy that leverages international cooperation to accelerate technological capability while preserving strategic autonomy.

Short Issues

Indigenous African Swine Fever (ASF) Vaccine

Context:

On the occasion of the Foundation Day of the Indian Council of Agricultural Research (ICAR), the Ministry of Agriculture and Farmers' Welfare dedicated India's first indigenous African Swine Fever (ASF) vaccine to the nation. The vaccine has been developed by the ICAR–National Institute of High Security Animal Diseases (ICAR-NIHSAD), Bhopal. It marks a significant milestone in India's efforts to strengthen livestock health, biosecurity, and indigenous vaccine research.

What is African Swine Fever (ASF)?

- African Swine Fever (ASF) is a highly contagious and fatal viral disease that affects both domestic and wild pigs. It is caused by the African Swine Fever Virus (ASFV), and its mortality rate can reach up to 100 percent.
- The disease does not infect humans and poses no direct threat to food safety. However, it causes severe economic losses to the pig farming industry. Since 2020, several ASF outbreaks have been reported in India, with the northeastern states being the worst affected.

Key Features of the Indigenous Vaccine:

- This is India's first MA-104 cell line-based live-attenuated vaccine, developed against ASFV Genotype II. It employs targeted gene deletion technology, which reduces the virus's disease-causing ability while enabling the animal to develop a strong immune response.
- The vaccine is intended for healthy pigs aged more than eight weeks. It is administered as a 1 ml intramuscular injection, followed by a booster dose after 14 days.
- The vaccine is produced using a non-proprietary MA-104 cell line, which reduces dependence on expensive foreign production

platforms and enables large-scale, cost-effective manufacturing.



Significance:

- The primary objective of this vaccine is to reduce large-scale pig mortality caused by African Swine Fever, minimize the need for mass culling of infected animals, and protect the livelihoods of pig farmers. It will be particularly beneficial in Northeast India, where pig farming is an important pillar of the rural economy.
- The development of this vaccine strengthens India's indigenous vaccine research capabilities and reinforces livestock biosecurity. Its potential for affordable large-scale production can accelerate nationwide vaccination programmes. Furthermore, India could emerge as a key supplier of cost-effective ASF vaccines to countries across Asia and Africa in the future.

Conclusion:

The development of the indigenous African Swine Fever vaccine represents a major achievement in India's animal health and biotechnology sector. It is expected to play a vital role in controlling ASF, enhancing livestock productivity, safeguarding farmers' incomes, and strengthening the country's

overall biosecurity framework.

Rotating Detonation Engine (RDE)

Context:

India-based defence start-up D-Propulse recently announced the successful demonstration of a Rotating Detonation Engine (RDE) at a DRDO facility in Hyderabad. Globally, RDEs are being tested for rockets, hypersonic missiles and spacecraft.

What is a Rotating Detonation Engine?

- An RDE is an advanced propulsion system that uses detonation instead of conventional combustion to release the chemical energy of fuel.
- In conventional engines, combustion occurs mainly through deflagration, where a flame travels below the speed of sound. In detonation, a supersonic shock wave rapidly compresses and heats the fuel-air mixture, causing extremely rapid combustion.

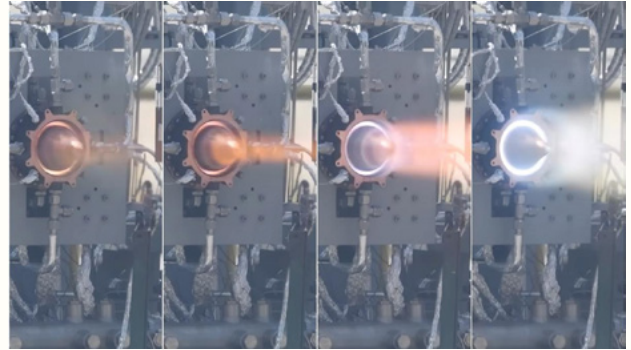
How Does an RDE Work?

- An RDE generally has an annular combustion chamber, consisting of two concentric cylinders with a narrow ring-shaped gap.
- Fuel and oxidiser are continuously injected into this chamber. One or more detonation waves travel around the ring at very high speeds. The waves consume the fresh fuel-air mixture and produce high-pressure gases, which expand through a nozzle to generate thrust.
- Unlike a pulsed detonation engine, an RDE can sustain the detonation continuously, allowing continuous thrust generation.

Why is it More Efficient?

- RDEs are more efficient because they compress the fuel-air mixture strongly before combustion using a supersonic shock wave.

- This produces higher pressure and allows more of the fuel's chemical energy to be converted into useful thrust, with less energy lost as heat. Therefore, RDEs may offer around 10–25% higher thermodynamic efficiency than conventional combustors.



Applications:

- Higher efficiency can reduce fuel requirements for achieving the same output:
 - » **Space Technology:** For rockets, lower propellant consumption could increase payload capacity, mission efficiency and potentially reduce launch costs.
 - » **Defence:** RDEs could support future hypersonic missiles and advanced propulsion systems, potentially improving range, speed or payload efficiency.

Why is RDE Technology Difficult?

- Despite its promise, practical implementation is challenging. RDE combustion chambers may experience temperatures above 2,000°C, pressures of 10–100 atmospheres or more, and detonation speeds exceeding 1,500 m/s.
- Even small changes in fuel-air mixing can destabilise the detonation wave. Development therefore requires advanced materials, fuel-injection systems, high-speed computing, diagnostics and precision manufacturing.

RDE vs Pulsed Detonation Engine:

- A Pulsed Detonation Engine (PDE) uses a tube where detonation occurs in repeated

cycles, requiring the chamber to be purged and refilled.

- An RDE uses an annular chamber in which detonation waves continuously rotate, enabling continuous fuel injection and thrust.

Significance for India:

- Indigenous RDE development can strengthen India's capabilities in defence, hypersonic technology and space propulsion, while reducing dependence on foreign propulsion technologies.

Conclusion:

RDEs represent a promising next-generation propulsion technology with potentially 10–25% higher thermodynamic efficiency. However, extreme operating conditions and difficulties in maintaining stable detonation mean that they remain experimental. Sustained research and indigenous innovation will determine whether their theoretical advantages translate into operational systems.

Influenza H1N1 (Swine Flu)

Context:

Recently, Delhi has witnessed a sharp rise in Influenza A(H1N1) cases. According to National Centre for Disease Control (NCDC) data cited in the article, 1,449 cases were reported up to August 12, compared with 229 cases during the corresponding period last year.

What is Influenza H1N1?

- Influenza viruses belong to the Orthomyxoviridae family. H1N1 is a subtype of Influenza A, named after two surface proteins: Hemagglutinin (H) and Neuraminidase (N). H1N1 contains the H1 and N1 subtypes of these proteins, which help the virus infect host cells and interact with the immune system.
- The term “swine flu” became popular because the virus responsible for the 2009 pandemic contained genetic material originating from

influenza viruses associated with humans, pigs and birds.

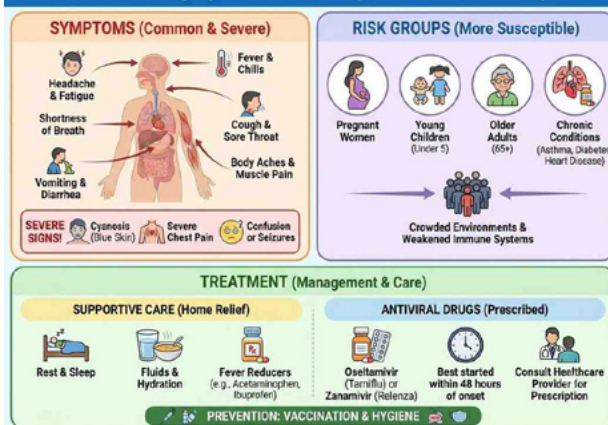
2009 H1N1 Pandemic:

- India reported its first H1N1 case in Hyderabad in May 2009. In June 2009, the World Health Organization (WHO) declared H1N1 a global pandemic. The virus subsequently became established as one of the seasonal influenza viruses circulating among humans.

Why is H1N1 Spreading?

- Influenza is a seasonal disease, with outbreaks influenced by climatic conditions, particularly during the monsoon period in India. Increased human interaction, population density and local weather conditions can facilitate transmission.
- However, the exact reason for a sudden increase in cases requires genetic and epidemiological studies, as changes in the virus may also influence its spread and ability to evade existing immunity.

H1N1 Swine Flu: Symptoms, Risk Groups, and Treatment Explained



Antigenic Drift and Antigenic Shift:

- **Antigenic Drift:** Antigenic drift refers to small and gradual mutations in influenza viruses. These changes can alter the HA and NA proteins, reducing the effectiveness of existing antibodies. Drift contributes to seasonal outbreaks and is one reason influenza vaccines need periodic updating.
- **Antigenic Shift:** Antigenic shift is a sudden

and major change in an Influenza A virus. It can produce a novel influenza subtype against which humans have little or no immunity. Such changes have the potential to cause influenza pandemics, as occurred in 2009.

Symptoms and Vulnerable Groups:

- Common symptoms include fever, cough, headache, fatigue, muscle aches, chills and sweating. Severe infection can result in pneumonia or respiratory failure.
- The elderly, children, pregnant women and people with conditions such as diabetes, asthma, heart disease or weakened immunity are at greater risk of severe disease.

Treatment and Prevention:

- Treatment is mainly supportive. Oseltamivir, an antiviral medicine, can be effective, particularly when started early in appropriate cases. Antibiotics do not treat viral influenza.
- Preventive measures include annual vaccination, hand hygiene, respiratory etiquette, adequate ventilation and avoiding close contact while symptomatic.

Conclusion:

The resurgence of H1N1 highlights the importance of genomic surveillance, vaccination, early diagnosis and One Health preparedness. Understanding antigenic drift and shift is crucial for preventing seasonal outbreaks and preparing for future influenza pandemics.

SmaOrt Drug RK-251: India's New Cancer-Fighting Prodrug

Context:

Recently, Scientists from the Institute of Advanced Study in Science and Technology (IASST), Guwahati, and IIT Guwahati have developed an experimental cancer drug called RK-251. It is designed to remain mostly inactive

in the body and become active mainly inside cancer cells. The research was published in the Journal of Medicinal Chemistry in 2026.

What is RK-251?

- RK-251 is a prodrug, meaning it is a less-active form of a medicine that becomes active only when it receives a particular chemical signal.
- The drug uses a difference between cancer and normal cells. Many cancer cells contain higher amounts of Reactive Oxygen Species (ROS), molecules that can damage cells when present in excess.



How Does it Work?

- The process is simple, when RK-251 enters a cancer cell with high ROS levels, ROS activates the drug and releases NBDHEX.
- NBDHEX blocks an enzyme called GSTP1, which helps some cancer cells survive and resist treatment.
- Thus, RK-251 aims to deliver its cancer-fighting action mainly where it is needed.
- Theranostic Approach:** RK-251 also contains a fluorescent component called QCy7. When the drug becomes active, it produces a near-infrared light signal.
- Therefore, the drug can potentially do two jobs:
 - Treatment:** Releases NBDHEX to attack cancer cells.
 - Detection:** Produces fluorescence to show that the drug has been activated.
- Combining treatment and detection is called a theranostic approach.

Target: Triple-Negative Breast Cancer

- The drug showed promising activity against triple-negative breast cancer (TNBC) in laboratory studies.
- TNBC is difficult to treat because the cancer cells do not have three common targets: oestrogen receptors, progesterone receptors and HER2.

Can it Replace Chemotherapy?

- It is too early to say that RK-251 can replace chemotherapy. Conventional chemotherapy can damage some healthy cells along with cancer cells, while RK-251 aims to be more selective.
- Before human use, researchers must establish its safety, correct dosage, behaviour in the human body and effectiveness against tumours.
- Even if successful, it may become another treatment option rather than completely replace chemotherapy.

Significance for India:

- RK-251 highlights India's progress in biotechnology, drug discovery, cancer research and precision medicine.
- It also shows the importance of collaboration between research institutions and IITs.

About Breast Cancer:

- Breast cancer is the most common cancer among women globally. WHO estimates that about 2.4 million women were diagnosed and 694,000 died from breast cancer in 2024. Early detection and timely treatment are crucial for reducing mortality.
- In India, breast cancer is among the country's most common cancers, alongside cervical and oral cancers, highlighting the importance of screening and early diagnosis.

Conclusion:

RK-251 is a promising experimental smart drug that uses high ROS levels inside cancer cells as a trigger. By combining targeted treatment with cancer-cell detection, it represents an

interesting development in modern cancer research. However, human clinical trials are still required to establish whether it is safe and effective.

Aditya-L1 Solar Flare Study

Context:

Recently, in a joint study, scientists from the Indian Space Research Organisation (ISRO), Manipur Centre for Natural Sciences and Manipur Academy of Higher Education have successfully recorded the early signals generated in the Sun's atmosphere before the eruption of solar flares. This study utilized data obtained from India's first solar mission, Aditya-L1.

Key Highlights of the Research:

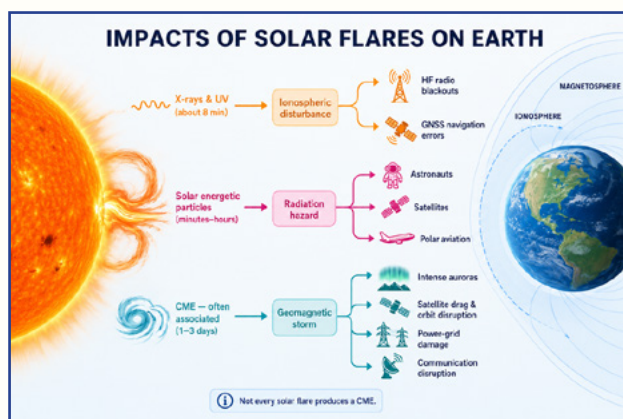
- The research utilized simultaneous Ultraviolet (UV) and X-ray observations captured by three major payloads aboard Aditya-L1:
 - » **Pre-flare Transient Events:** Scientists discovered that small, short-lived 'bright points' appear in the Sun's atmosphere a few hours before the onset of a major solar flare.
 - » **Release of Magnetic Energy:** X-ray signatures were observed alongside many of these bright points detected by SUIT, indicating that magnetic energy was undergoing contraction and release during this process.
 - » **Magnetic Field Destabilization:** These small bright points were clustered around the exact location where the major solar flare subsequently erupted. This leads to the conclusion that these recurring, small-scale energy emissions eventually destabilize the magnetic field of the active region, triggering a massive explosion (solar flare).

Impact on Space Weather and Global Technology:

- Solar flares release highly energetic particles

and radiation into space. The findings of this study are crucial for the following reasons:

- » **Accurate Space Weather Prediction:** This study brings scientists one step closer to accurately forecasting solar flares.
- » **Satellite and Communication Security:** Solar storms can affect Earth's ionosphere, potentially disrupting GPS, radio communications, and power grids. Timely warnings allow satellites to be switched to 'safe mode'.
- » **Astronaut Safety:** It will become possible to protect astronauts aboard the International Space Station (ISS) and those on future crewed space missions (such as India's Gaganyaan) from lethal solar radiation.



Conclusion:

Detecting early signs of solar flares through the Aditya-L1 mission represents a significant achievement for the Indian Space Research Organisation (ISRO) and the global scientific community. This study not only aids in understanding the Sun's complex magnetic dynamics but also marks a major step towards making 'space weather forecasting' more reliable. In an era of rapidly growing digital dependence and a satellite-based global economy, this indigenous Indian initiative will prove to be crucial and visionary in safeguarding sensitive technical systems, communication networks, and future human space missions against solar storms.

'One Nation, One Time'

Context:

Recently, the Central Government has taken steps towards establishing Indian Standard Time (IST) as a uniform and reliable national time reference across the country. This initiative is being viewed as 'One Nation, One Time'. The objective is not merely to bring clocks across the country to the same time, but also to synchronize critical systems such as banking, telecommunications, digital payments, power grids, railways, stock markets and other essential infrastructure with an accurate and reliable time source.

What is 'One Nation, One Time'?

- India already has a single official time zone, and IST is 5 hours and 30 minutes ahead of UTC. Therefore, this initiative does not seek to introduce a new time zone.
- Instead, it focuses on making IST the sole reference time for official and legal purposes in the country while improving the accuracy and reliability of its dissemination.
- In the modern digital economy, time has become an important component of critical digital infrastructure. Therefore, reducing dependence on different and potentially inconsistent time sources across various systems has become essential.



How Will It Work?

- India's official time is determined and maintained by the CSIR-National Physical Laboratory (CSIR-NPL) with the help of

highly precise atomic clocks.

- To make this time available across the country, modern technologies such as the Precision Time Protocol (PTP) and White Rabbit Technology (WRT) are being used.
- White Rabbit Technology (WRT) primarily uses fibre-optic networks to help synchronize different systems with a common time source at extremely high levels of precision.
- Alongside this, India can leverage its indigenous satellite-based capabilities, particularly NavIC (Navigation with Indian Constellation), to reduce dependence on external time sources.

Why Does India Need It?

- » **Reliability of the Digital Economy:** Digital payments, banking and online transactions require accurate timestamps for every transaction. Even a small discrepancy in time can affect the sequencing and verification of transactions.
- » **Efficiency of Financial Markets:** Stock markets and high-frequency trading involve thousands of transactions within extremely short time intervals. A common and accurate time reference can improve transparency, traceability and fairness in financial markets.
- » **Synchronization of Critical Infrastructure:** Systems such as power grids, telecommunications networks, railway signalling and aviation require precise time synchronization between different devices and operational systems.
- » **Cybersecurity:** During the investigation of cyber incidents, timestamps from different servers and network devices have to be correlated. An accurate and common time reference makes digital forensics more effective.
- » **Strategic Autonomy:** At present, many systems depend on time signals obtained from Global Navigation Satellite Systems (GNSS). Excessive dependence on external systems creates risks related

to signal disruption, spoofing and manipulation.

- Therefore, developing an indigenous and secure national time reference is important for both digital sovereignty and national security.

Major Challenges:

- Expanding a high-precision Time Dissemination Network across the country.
- Upgrading legacy digital and industrial equipment to comply with new standards.
- Ensuring coordination among various government and private institutions.
- Managing the cost of technological upgrades, particularly for smaller institutions.
- Transitioning from GNSS-based systems towards the national time reference.
- Ensuring the cybersecurity of time-synchronization infrastructure.

Way Forward:

- India should develop a multi-layered and secure national time dissemination network. This can be achieved through the integrated use of fibre-optic networks, atomic clocks, satellite-based systems and indigenous capabilities such as NavIC.
- At the same time, it is necessary to develop backup time sources, regular calibration mechanisms and robust cybersecurity protocols for critical infrastructure.

Conclusion:

'One Nation, One Time' is a much broader initiative than simply ensuring uniformity in time across India. It represents an important step towards strengthening the digital economy, critical infrastructure, cybersecurity and strategic autonomy of the country. In the future data-driven economy, accurate time will no longer be merely an administrative requirement; it will become a foundational infrastructure for digital governance and national security.

GOBARdhan: Giving a New Direction to Rural Economy through Waste Management

Context:

Recently, The Union Cabinet has approved GOBARdhan (Galvanising Organic Bio-Agro Resources Dhan), the National Circular Bioenergy Scheme, with an outlay of Rs.23,731 crore for ten years from FY 2026-27 to FY 2035-36. Implemented by the Ministry of Petroleum and Natural Gas (MoPNG), the scheme aims to increase domestic Compressed Biogas (CBG) production nearly ten-fold and attract large-scale private investment. It seeks to address the major challenges that have restricted the commercial growth of CBG, including uncertain demand, high capital costs, weak feedstock supply chains and inadequate infrastructure.

GOBARdhan: From Waste Management to Energy Security

- GOBARdhan was originally launched in 2018 as a rural waste-management initiative under the Swachh Bharat Mission (Grameen). Its initial focus was on scientific management of cattle dung and organic waste and converting them into useful products such as biogas and compost.
- Over the years, the programme acquired a much wider significance. Agricultural residues, cattle dung, press mud, food waste and other organic materials came to be viewed not merely as waste but as potential sources of renewable energy and agricultural inputs.
- The latest scheme represents the next stage of this evolution. It seeks to integrate waste

management with energy security, rural incomes, clean fuel production and the circular economy.

CABINET APPROVES GOBARdhan
National Circular Bioenergy Scheme
India's National Unified Scheme for Compressed Biogas

Total Outlay
₹23,731 CRORE

6 GROWTH ENGINES
POWERING A NEW BIOENERGY REVOLUTION

- 1. ASSURED CBG OFFTAKE**
Assured market through CBG Obligation for CNG entities.
- 2. STABLE CBG PRICING**
Administered price of ₹2,710 per MMBTU with 10-year visibility.
- 3. CAPITAL ASSISTANCE**
Up to ₹2 crore per TPD for greenfield projects & expansion.
- 4. PIPELINE INFRASTRUCTURE**
Support for pipeline connectivity to gas grid & CNG networks.
- 5. CREDIT GUARANTEE SUPPORT**
Easier access to finance for MSMEs, entrepreneurs & first-time developers.
- 6. CBG ECOSYSTEM CHALLENGE FUND**
Strengthening ecosystem, technology, value chains & local development.

GOBARdhan
WASTE TO WEALTH
ENERGY SECURITY
RURAL PROSPERITY
ATMANIRBHAR BHARAT

CBG
CLEANER ENERGY
FUTURE INDIA

READY FOR GROWTH
WASTE-TO-ENERGY PRODUCTION

GREATER ENERGY SECURITY

STRONGER RURAL LIVELIHOODS & EMPLOYMENT

SCIENTIFIC WASTE MANAGEMENT & LOWER EMISSIONS

LARGER ORGANIC FARMING ECONOMY & VALUE ADDITION

India's Waste will fuel India's Growth.
India's Villages will power Clean Energy.
India's Farmers will secure our Energy Future.

What Is Biogas and How Is CBG Different?

- Biogas is produced when organic matter decomposes in the absence of oxygen. It generally contains around 55-65% methane, along with carbon dioxide and traces of other gases such as hydrogen sulphide, nitrogen and ammonia.
- In its raw form, biogas can be used for cooking, lighting, electricity generation and certain mechanical applications. However, when biogas is purified and upgraded to significantly increase its methane concentration and then compressed at high pressure, it becomes Compressed Biogas (CBG).
- CBG has properties and energy content similar to Compressed Natural Gas (CNG). This makes it suitable for use in transport, industry and commercial applications and

allows it to be integrated into existing gas infrastructure. The distinction is therefore important: biogas is the raw product, while CBG is purified and compressed biogas designed for wider commercial fuel applications.

How Does a CBG Plant Work?

- The foundation of a CBG plant is anaerobic digestion, in which microorganisms break down organic matter in a sealed environment without oxygen.
- The process broadly occurs through four stages. Hydrolysis breaks complex organic matter into simpler molecules. During acidogenesis, these molecules are converted into volatile fatty acids. Acetogenesis then produces compounds such as acetic acid, carbon dioxide and hydrogen. Finally, methanogenesis produces methane-rich biogas.
- The raw biogas is subsequently purified to remove impurities and increase methane concentration. It can then be compressed and supplied as CBG.
- The process also produces digestate, which can be processed into Fermented Organic Manure (FOM). Thus, a CBG plant can generate both clean fuel and agricultural nutrients.

Why Is CBG Strategically Important for India?

- CBG has strategic importance because India remains significantly dependent on imported natural gas.
- Expanding domestic CBG production can help reduce dependence on imported fossil fuels and make the energy system more resilient to international price and supply disruptions.
- CBG also offers a domestic source of renewable gas for transport, households, industry and commercial establishments. Since purified CBG is chemically comparable to natural gas, it can potentially use the country's expanding gas infrastructure.

- Its importance therefore goes beyond climate policy. CBG can contribute simultaneously to energy security, import reduction, waste management and rural economic development.

Challenge: Making CBG Commercially Viable

- India has considerable biomass resources, but the CBG sector has historically faced several commercial bottlenecks.
- Feedstock is often scattered across rural areas and may be seasonal. Collecting and transporting crop residues and cattle dung can therefore be expensive. CBG plants also require significant upfront capital, while uncertain offtake has made investors cautious.
- The new GOBARdhan framework attempts to address these weaknesses by creating an integrated ecosystem covering feedstock, production, financing, pricing, offtake and infrastructure.
- This is a significant shift from treating CBG as a technology or pilot project towards developing it as a bankable energy industry.

The Six Growth Engines of the new Scheme:

To minimize the market and operational risks traditionally associated with bioenergy projects, the GOBARdhan scheme is built upon six interconnected policy engines:

- **Assured CBG Offtake Framework:** One of the most significant barriers to commercial CBG production has been market uncertainty. To solve this, the scheme introduces a rigid blending mandate. Starting with a 3% mandatory blending obligation in FY 2026-27, the mandate escalates to 5% by FY 2028-29. This forces natural gas marketing companies to purchase domestic CBG, creating a guaranteed, baseline demand for every molecule of gas produced.
- **Stable Administered Pricing:** Revenue predictability is crucial for capital-intensive bioenergy plants. The policy institutes a government-backed, long-term administered

pricing framework that fixes the price of CBG at Rs. 2,110 per MMBTU (which equates to roughly Rs.105 per kilogram) over a 10-year horizon. This insulates producers from the extreme volatility of global fossil fuel markets and guarantees steady cash flows.

- **Targeted Capital Assistance:** To lower the high initial cost of setting up these facilities, the government provides extensive direct financial support. Subsidies are scaled up to Rs.2 crore per Ton Per Day (TPD) of production capacity. This massive injection of capital assistance directly lowers the equity requirement for entrepreneurs and improves the internal rate of return for projects.
- **Infrastructure and Grid Connectivity:** The scheme allocates dedicated funds to bridge the physical gap between rural production centers and urban consumption hubs. Financial support is provided to lay pipelines that connect CBG plants directly to existing city gas distribution networks for seamless gas injection. Additionally, a robust credit guarantee mechanism is established to lower interest rates and cushion risks for commercial lenders.
- **Feedstock and Biomass Mapping:** Recognizing that a bioenergy plant is only as reliable as its supply chain, the policy mandates comprehensive, tech-driven biomass mapping across agricultural zones. A dedicated fund supports the identification, collection, and localized warehousing of crop residues, preventing seasonal shortages and smoothing out raw material pricing.
- **Fermented Organic Manure (FOM) Value Addition:** The final engine focuses on commercializing the solid and liquid digestate produced alongside the biogas. By funding specialized value-addition facilities, the scheme helps transform raw FOM into standardized, nutrient-rich organic fertilizer. This creates an auxiliary revenue stream for plant operators while advancing sustainable agriculture.

GOBARDhan and the Circular Economy:

- GOBARDhan goes beyond CBG by promoting a circular economy, where organic waste is converted into CBG and Fermented Organic Manure (FOM), generating clean energy and agricultural nutrients. This can reduce landfill pressure, curb crop-residue burning and recycle nutrients back into the soil, linking environmental protection with economic development.

Conclusion:

CBG is part of India's wider waste-to-energy potential. While anaerobic digestion is suitable for biodegradable waste, technologies such as incineration, pyrolysis and gasification can process other waste streams. GOBARDhan also builds on initiatives such as SATAT, Market Development Assistance, Biomass Aggregation Machinery, Development of Pipeline Infrastructure and the National Bioenergy Programme, bringing greater integration and scale to the sector.

Way Forward:

The success of GOBARDhan will depend on effective implementation, including biomass mapping, aggregation, storage, transport, infrastructure and stable pricing. Strong coordination among governments, farmers, cooperatives and industry is essential, while the market for organic manure must develop alongside CBG. Region-specific and decentralised models should also be encouraged. If implemented effectively, GOBARDhan can transform cattle dung, crop residues and organic waste into fuel, fertiliser, employment and income, making waste the starting point of a new circular economic cycle.

Short Issues

MSME Development (Amendment) Bill, 2026

Context:

Recently, The Micro, Small and Medium Enterprises Development (Amendment) Bill, 2026 was passed by Parliament in August 2026. It seeks to amend the MSMED Act, 2006 to modernise the regulatory framework, reduce delayed payments, ensure faster dispute resolution and promote Ease of Doing Business for MSMEs.

Importance of MSMEs:

- MSMEs are a key pillar of India's economy. According to the Economic Survey 2025-26, they contribute 31.1% of GDP, 35.4% of manufacturing output and 48.58% of exports. As of August 2026, about 9.16 crore MSMEs are registered on the Udyam platform, employing more than 40 crore people. They are important for employment generation, entrepreneurship, exports and inclusive regional development.

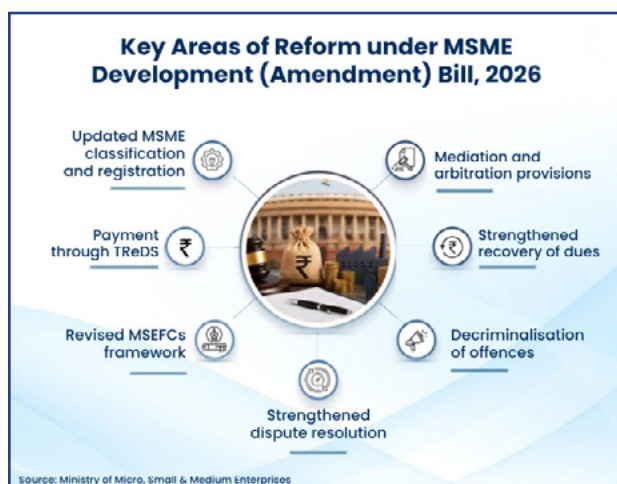


Key Provisions of the Bill:

- MSME Classification:** The amendment provides for classification of enterprises on the basis of investment in plant and machinery/equipment as well as turnover, providing a broader measure of enterprise size.
- Free and Voluntary Registration:** Registration will be free and voluntary for all MSMEs. A national digital platform may be notified by

the Central Government, while States may establish their own platforms.

- Strengthening TReDS:** All Central Public Sector Enterprises (CPSEs) will be required to settle invoices for goods and services procured from MSMEs through the Trade Receivables Discounting System (TReDS). This can reduce working-capital stress caused by delayed payments.



- Faster Dispute Resolution:** States can establish multiple MSE Facilitation Councils (MSEFCs) with adequate infrastructure and digital systems. The Bill introduces timelines of 90 days for mediation, 30 days for referral to arbitration after failed mediation, and 90 days for making an arbitral award after completion of pleadings.
- Protection of MSME Suppliers:** Courts may direct payment of a reasonable portion of the deposited award amount to MSME suppliers during proceedings. If a case remains pending for more than six months, at least 50% of the awarded amount must be paid to the MSE supplier.
- Recovery of Dues:** Mediated settlements and arbitral awards can be recovered as arrears of land revenue through the District Collector, Deputy Commissioner or another notified authority.
- Decriminalisation:** Certain compliance-related offences are decriminalised. The

framework moves towards warnings, penalties and fines, reducing unnecessary criminalisation while retaining deterrence.

Supporting Digital Ecosystem:

- The reforms complement Udyam Registration, Udyam Assist, TReDS and the Online Dispute Resolution (ODR) Portal. The ODR Portal was launched in June 2025, while 161 MSEFCs have been established across States and Union Territories.

Significance:

- The Bill can improve liquidity, regulatory compliance, dispute resolution and Ease of Doing Business. Faster payments and stronger recovery mechanisms can enhance MSME competitiveness and resilience.

Conclusion:

The MSME Development (Amendment) Bill, 2026 marks an important step towards a simpler, digital and time-bound MSME ecosystem. By addressing delayed payments, regulatory burden and dispute resolution, it can strengthen MSMEs as engines of employment, exports, innovation and inclusive economic growth.

Samudra Manthan Scheme 2026

Context:

Recently, the Union Cabinet approved Samudra Manthan, the National Offshore Exploration Scheme on 31 July 2026 with a Phase-I outlay of Rs.84,084 crore till FY 2030–31. The scheme aims to accelerate offshore oil and gas exploration, strengthen India's energy security, and reduce dependence on imported crude oil.

About Samudra Manthan scheme:

- Samudra Manthan is a flagship initiative of the Government of India to unlock the country's vast offshore hydrocarbon resources.
- It focuses on increasing domestic production

of crude oil and natural gas through modern technology, better geological data, shared infrastructure, and greater participation of both public and private companies.

- The scheme also supports the vision of Atmanirbhar Bharat and Make in India.



Need for the Scheme:

- India is the third-largest consumer of crude oil in the world and imports a major share of its energy requirements.
- The annual crude oil import bill is around USD 144 billion (Rs.13 lakh crore). India's offshore basins are estimated to hold over 5,600 MMTOE of hydrocarbon resources.
- Therefore, expanding offshore exploration is essential to improve energy security and reduce import dependence.

Major Components:

- **Seismic Data Acquisition:** Rs.28,534 crore has been allocated for 2D and 3D seismic surveys, AI-based data analysis, and reprocessing of old geological data to identify new hydrocarbon reserves.
- **Offshore Exploration:** Rs.43,200 crore will support drilling of 60 deepwater and ultra-deepwater wells. Financial assistance of up to 50% of drilling cost or Rs.675 crore per well will encourage exploration by public and private companies.
- **Common Offshore Infrastructure:** Rs.10,000 crore will be used to develop shared production and transportation facilities

in offshore basins such as Mahanadi and Kutch.

- **Manufacturing and Services Zone:** Rs.2,000 crore has been allocated to establish an Oil and Gas Manufacturing and Services Zone to promote domestic manufacturing and strengthen the Make in India initiative.

Expected Benefits:

- The scheme aims to add over 600 MMTOE of hydrocarbon reserves and increase domestic production from 62 MMTOE to about 80 MMTOE annually.
- It is expected to reduce crude oil imports by nearly Rs.1 lakh crore every year, generate employment, attract investment, and build a globally competitive offshore energy sector.

Conclusion:

Samudra Manthan is a significant step towards energy security, self-reliance, and sustainable economic growth. By promoting offshore exploration, improving infrastructure, and strengthening domestic capabilities, the scheme will play a key role in achieving the goals of Atmanirbhar Bharat and reducing India's dependence on imported energy.

RBI Restart Licensing to Urban Cooperative Bank After 20-Year Freeze

Context:

The Reserve Bank of India (RBI) has announced that it will soon release draft guidelines for licensing new Urban Cooperative Banks (UCBs) after incorporating stakeholder feedback on its January 2026 discussion paper. This marks the first major move to issue fresh UCB licences since the licensing freeze imposed in 2004.

What are Urban Cooperative Banks (UCBs)?

- Urban Cooperative Banks (UCBs) are primary cooperative financial institutions operating in urban and semi-urban areas.
- They are owned and managed by their

members on the principle of "one member, one vote", irrespective of shareholding, and primarily cater to small borrowers, local businesses, traders, self-employed professionals, salaried individuals, and middle-income households.

- UCBs play a significant role in promoting financial inclusion by providing accessible banking services to communities often underserved by commercial banks.

Legal Registration and Regulatory Framework:

- UCBs are registered under the State Cooperative Societies Act if they operate within a single state, or under the Multi-State Cooperative Societies Act, 2002 if they operate across multiple states.
- Their administrative affairs are supervised by the Registrar of Cooperative Societies (RCS) or the Central Registrar of Cooperative Societies (CRCS), while their banking functions are regulated by the Reserve Bank of India (RBI) under the Banking Regulation Act, 1949 (As Applicable to Co-operative Societies) and the Banking Laws (Co-operative Societies) Act, 1955.

Dual Control and Enhanced RBI Powers:

- Historically, UCBs operated under a dual regulatory framework. Management, elections, and incorporation were governed by cooperative laws, whereas licensing, capital adequacy, and banking operations were regulated by the RBI. This often created regulatory gaps and delayed corrective actions.
- Following amendments to the Banking Regulation Act in 2020, the RBI received enhanced powers over governance reforms, board supersession, and implementation of the Prompt Corrective Action (PCA) framework. Further, under Sections 22 and 23 of the Banking Regulation Act, 1949, the RBI is empowered to grant banking licences and branch expansion approvals.

Why Was Licensing Stopped in 2004?

- The RBI halted new UCB licences in 2004 after several cooperative bank failures exposed weak governance, rising non-performing assets (NPAs), financial frauds, and inadequate professional management.
- The collapse of institutions such as Madhavpura Mercantile Cooperative Bank and later Punjab & Maharashtra Cooperative (PMC) Bank highlighted systemic vulnerabilities.
- Combined with the challenges of dual regulation, these issues led the RBI to suspend new licences until a stronger regulatory framework was established.

Why is RBI Restarting Licensing Now?

- Over the past two decades, the sector has undergone major reforms, including stronger RBI oversight through the Banking Regulation (Amendment) Act, 2020, the four-tier regulatory framework (2022), and the establishment of the National Urban Cooperative Finance and Development Corporation (NUCFDC) in 2024.
- Improved governance, declining NPAs, stronger capital adequacy, and better profitability have enhanced the resilience of UCBs. Under the proposed framework, only financially sound cooperative credit societies with Rs.300 crore minimum capital, 12% capital adequacy, and net NPAs below 3% will be eligible for conversion into UCBs.

Significance:

- Reopening UCB licensing is expected to strengthen financial inclusion, improve credit access for MSMEs and local businesses, encourage healthy competition in the banking sector, and expand cooperative banking through well-governed and professionally managed institutions while ensuring greater financial stability.

**RBI MPC Keeps Repo Rate
Unchanged at 5.25%**

Context:

Recently, the Monetary Policy Committee (MPC) of the Reserve Bank of India (RBI) unanimously decided to keep the policy repo rate unchanged at 5.25% under the Liquidity Adjustment Facility (LAF), while retaining its neutral policy stance. Consequently, the Standing Deposit Facility (SDF) remains at 5%, and the Marginal Standing Facility (MSF) along with the Bank Rate continues at 5.5%.

About Liquidity Adjustment Facility (LAF):

- The Liquidity Adjustment Facility (LAF) is a key quantitative monetary policy tool used by the Reserve Bank of India (RBI) to inject or absorb short-term liquidity into or from the banking system using government securities as collateral. It was introduced in June 2000 based on the recommendations of the Narasimham Committee II.



Core Components of LAF:

- **Repo Rate (Repurchase Rate):** The rate at which the RBI lends short-term funds to commercial banks against government securities. It injects liquidity into the banking system.
- **Reverse Repo Rate:** The rate at which the RBI borrows funds from commercial banks, thereby absorbing excess liquidity from the banking system.
- **Standing Deposit Facility (SDF):** A collateral-free liquidity absorption tool introduced by the RBI. It now serves as the lower bound (floor) of the LAF corridor, replacing the fixed-rate reverse repo as the principal

instrument for absorbing surplus liquidity.

Reasons behind the Decision:

- The RBI decided to maintain the repo rate due to the following reasons:
 - » **Resilient Domestic Growth:** High-frequency indicators show robust private consumption, steady investment, and healthy domestic demand.
 - » **Global Economic Uncertainty:** Ongoing geopolitical tensions, supply chain disruptions, and uncertain global growth continue to pose risks to the Indian economy.
 - » **Monsoon Risks:** An uneven southwest monsoon under El Niño conditions could adversely affect agricultural production, rural demand, and food inflation.
 - » **Policy Flexibility:** Retaining a neutral stance allows the RBI to respond appropriately to future changes in inflation and growth conditions without committing to either tightening or easing monetary policy.

What is Monetary Policy?

- Monetary policy refers to the measures adopted by the RBI to regulate money supply, interest rates, and credit conditions in the economy. Its objectives include:
 - » Maintaining price stability.
 - » Controlling inflation.
 - » Supporting sustainable economic growth.
 - » Ensuring financial stability.
 - » Facilitating adequate credit flow.

About Monetary Policy Committee (MPC):

- The MPC is a six-member statutory body constituted under Section 45ZB of the RBI Act, 1934, based on the recommendations of the Urjit Patel Committee.
- **Composition:**
 - » RBI Governor (Chairperson)
 - » RBI Deputy Governor in charge of Monetary Policy
 - » One RBI official

- » Three external members nominated by the Government of India

Key Features:

- Meets at least four times a year.
- Decisions are taken by majority vote.
- RBI Governor has a casting vote in case of a tie.
- Determines the repo rate to achieve the inflation target.

Conclusion:

The RBI's decision to keep the repo rate unchanged at 5.25% reflects a balanced and forward-looking monetary policy aimed at sustaining economic growth while keeping inflation within the target range. By maintaining a neutral stance amid global uncertainties and domestic risks, the MPC seeks to preserve macroeconomic stability and retain flexibility to respond to evolving economic conditions.

**India Can Emerge as the
World's Affordable Caregiving
Capital**

Context:

Recently, NITI Aayog has released a report stating that India has the potential to emerge as the world's affordable caregiving capital by developing a skilled caregiving workforce. The report emphasizes strengthening the care economy through professional training, institutional support, and policy reforms to meet both domestic and global demand for care services.

What is the Care Economy?

- The care economy comprises all paid and unpaid activities related to caring for children, the elderly, persons with disabilities, and the sick.
- It includes services such as nursing, childcare, eldercare, therapy, teaching, and domestic support.
- As ageing populations and changing family

structures increase care needs worldwide, the care economy has become a significant driver of employment and social welfare.

Key Highlights of the Report:

- Recommends positioning caregivers as skilled professionals and ensuring quality, affordable, and accessible care services.
- Proposes a National Policy on Caregiving and a National Caregiver Council to standardize training, certification, and service delivery.
- Advocates workforce development through skill training, professional recognition, and social security benefits.
- Encourages family- and community-based care alongside institutional support.
- Promotes international cooperation to enable Indian caregivers to access global employment opportunities.

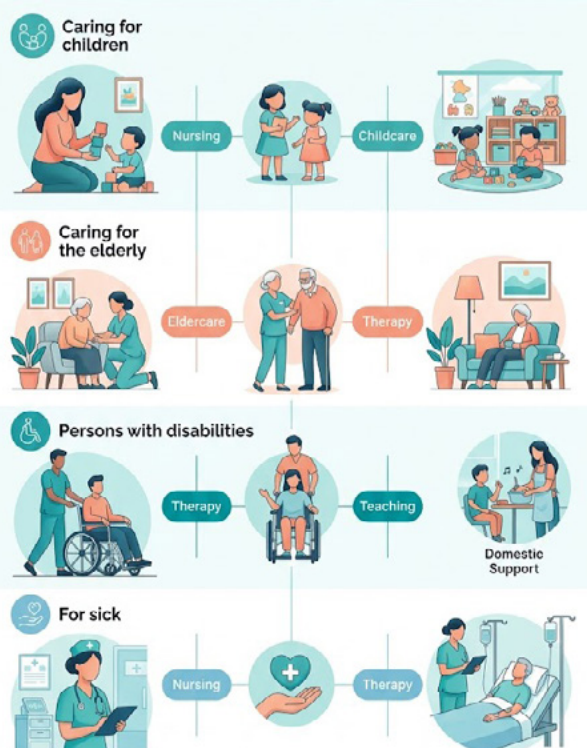
Significance for India:

- India's young workforce, combined with its tradition of Seva (service) and Samvedana (compassion), provides a comparative advantage in caregiving services. The report highlights that countries such as Japan, Germany, and Italy face severe shortages of trained caregivers due to ageing populations.
- By creating a globally competitive caregiving workforce, India can generate employment, increase remittances, strengthen healthcare services, empower women, and enhance its soft power. A robust care economy also contributes to the vision of Viksit Bharat @2047.

Challenges for care economy:

- Shortage of trained and certified caregivers.
- Low wages and inadequate social security for care workers.
- Heavy burden of unpaid care work on women, limiting their workforce participation.
- Lack of standardized training, regulation, and quality assurance.
- Limited awareness of caregiving as a professional career.

What is the Care Economy?



Global trends influencing the care economy



About NITI Aayog:

Established on 1 January 2015, NITI Aayog replaced the Planning Commission as the Government of India's apex public policy think tank. Chaired by the Prime Minister, it promotes cooperative and competitive federalism, provides strategic policy advice, monitors Sustainable Development Goals (SDGs), and supports initiatives such as the Atal Innovation Mission and Viksit Bharat 2047. Unlike the Planning Commission, it does not allocate funds to states but functions as a knowledge and policy advisory institution.

Way Forward:

- India should establish a comprehensive

National Caregiving Policy, strengthen skill development programmes, ensure certification and decent working conditions, and provide social security to caregivers.

- Public-private partnerships, digital technologies, and international agreements for recognition of caregiver qualifications should be promoted. Investments in healthcare infrastructure and community-based care systems will further strengthen the sector and improve accessibility.

The Taxation and Other Laws (Amendment) Bill, 2026

Context:

Recently, The Taxation and Other Laws (Amendment) Bill, 2026 has been passed by the Parliament. The Bill replaces the Income-tax (Amendment) Ordinance, 2026 promulgated on June 5, 2026.

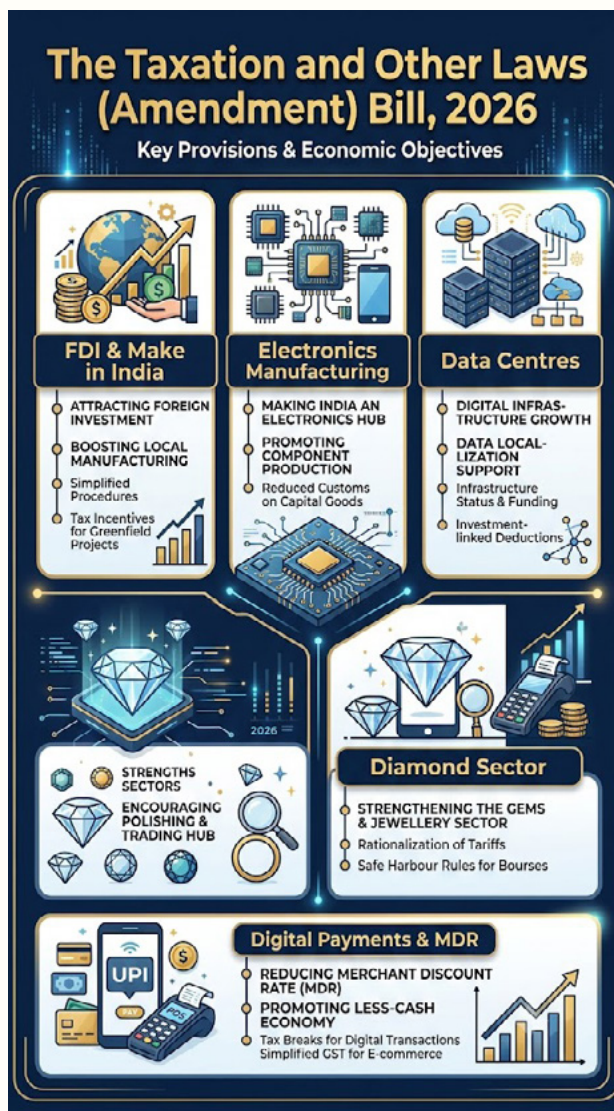
Objectives of the bill:

- It aims to promote electronics manufacturing, attract foreign investment, strengthen India's position as a global financial and manufacturing hub, and provide legal backing for future changes to the Zero Merchant Discount Rate (Zero-MDR) framework governing UPI and RuPay transactions.

Key Provisions:

- Tax exemption for FIIs and BIS:** Foreign Institutional Investors (FIIs) and the Bank for International Settlements (BIS) are exempted from income tax on interest and capital gains arising from investments in Government Securities (G-Secs) from 1 April 2026, encouraging foreign portfolio investment in India's debt market.
- Boost to electronics manufacturing:** Tax exemption is provided to foreign companies storing electronic components in customs-bonded warehouses for supply to Indian contract manufacturers of phones, laptops,

servers, and other specified electronics. The benefit is available until 31 March 2041.



- Diamond sector incentives:** Foreign diamond mining companies, sightholders, brokers, and auction entities are exempted from tax on income earned from the sale of rough diamonds in notified special zones.
- Relaxed investment fund norms:** The Bill removes conditions such as minimum investors, corpus size, and investment limits for offshore investment funds managed from India, promoting India as a global fund management hub.
- Business trusts and data centres:** It rationalises

taxation of REITs and InvITs by exempting certain dividend income and extends tax benefits to leased data centres operated by Indian companies.

- **Zero-MDR framework:** The Bill delinks the Payment and Settlement Systems Act, 2007 from the Income-tax Act, enabling the Government to modify the Zero-MDR policy for UPI and RuPay transactions in the future.

Significance:

- The Bill supports the objectives of Make in India, Digital India, and the PLI Scheme by attracting foreign capital, integrating India into global supply chains, strengthening electronics manufacturing, promoting digital infrastructure and deepening financial markets. It also enhances policy certainty, thereby improving India's investment climate.

Challenges:

- Tax exemptions may reduce short-term government revenue and could create concerns regarding preferential treatment for foreign firms.
- Any modification of the Zero-MDR framework must balance the financial sustainability of payment service providers with the continued affordability of digital payments for merchants and consumers.

Way Forward:

- The success of the Bill depends on ensuring that tax incentives lead to tangible investments, employment generation, and technology transfer.
- A transparent regulatory framework, balanced tax policy, and careful implementation of any changes to the Zero-MDR regime will be essential to sustain investor confidence while protecting India's rapidly expanding digital payment ecosystem.

Conclusion:

The Taxation and Other Laws (Amendment)

Bill, 2026 is a forward-looking reform that seeks to position India as a global hub for manufacturing, investment, and digital innovation. By combining tax rationalisation with sector-specific incentives, it strengthens India's long-term economic competitiveness while supporting inclusive and sustainable growth.

Bankers' Books Evidence Bill 2026

Context:

Recently, parliament passed Bankers' Books Evidence Bill, 2026, which seeks to repeal and replace the Bankers' Books Evidence Act, 1891. It aims to modernise the legal framework governing the use of banking records as evidence in courts.

Background:

- The Bankers' Books Evidence Act, 1891 was enacted when banking records were primarily maintained in physical books. With the rapid growth of digital banking, internet banking, electronic payments and cloud-based data storage, the existing framework had become outdated. The new Bill seeks to align evidentiary law with India's evolving digital financial ecosystem.

Key Provisions of new bill:

- **Recognition of Digital Records:** The Bill recognises electronic and digital records of bankers' books as admissible and legally valid evidence, subject to prescribed conditions.
- **Wider Definition of Bankers' Books:** The definition covers records maintained in physical, electronic, digital and virtual forms, including records stored at cloud, backup and disaster-recovery locations.
- **Authentication of Records:** Digital records must satisfy requirements relating to accuracy, authenticity and integrity. The Bill permits authentication through manual,

electronic and digital signatures.

- **Protection of Bank Officials:** Bank employees are generally not required to appear in court merely to produce or prove banking records when the bank is not a party to the case. Courts can, however, require production where there is special cause, such as doubts regarding the accuracy or genuineness of records.
- **Wider Financial-Sector Coverage:** The Central Government may extend the framework to other financial-sector entities, subject to prescribed conditions.

authentication of digital records;

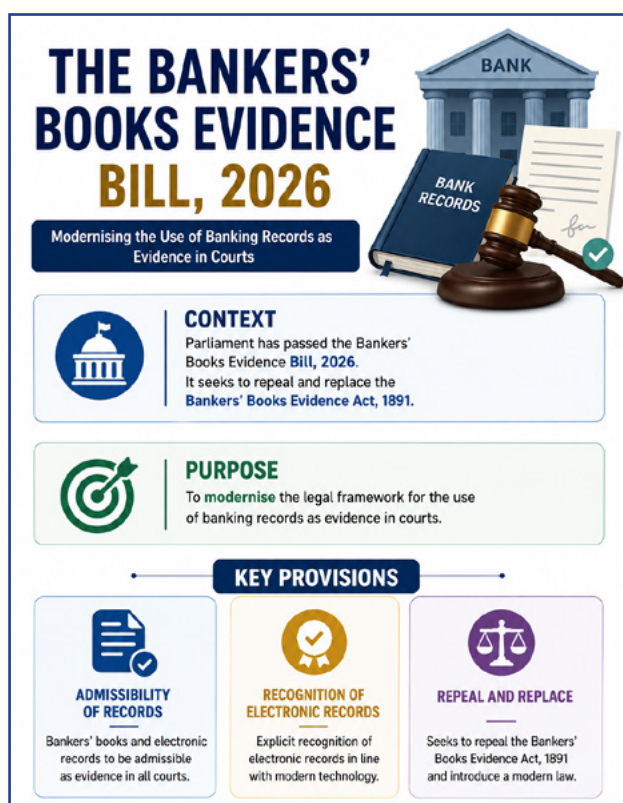
- » accommodate cloud-based banking infrastructure; and
- » potentially create a common evidentiary framework across parts of the financial sector.

Concerns:

- The increasing use of digital financial records also raises concerns regarding data privacy, cybersecurity, unauthorised access and manipulation of electronic evidence. Banks and financial institutions will need strong safeguards, audit trails and authentication mechanisms to ensure the integrity of records.

Conclusion:

The Bankers' Books Evidence Bill, 2026 represents an important transition from a paper-based to a digital evidentiary framework. Its success will depend on balancing ease of digital evidence with privacy, cybersecurity, authenticity and accountability, thereby strengthening India's legal infrastructure for the digital economy.



THE BANKERS' BOOKS EVIDENCE BILL, 2026
 Modernising the Use of Banking Records as Evidence in Courts

CONTEXT
 Parliament has passed the Bankers' Books Evidence Bill, 2026. It seeks to repeal and replace the Bankers' Books Evidence Act, 1891.

PURPOSE
 To modernise the legal framework for the use of banking records as evidence in courts.

KEY PROVISIONS

- ADMISSIBILITY OF RECORDS**
 Bankers' books and electronic records to be admissible as evidence in all courts.
- RECOGNITION OF ELECTRONIC RECORDS**
 Explicit recognition of electronic records in line with modern technology.
- REPEAL AND REPLACE**
 Seeks to repeal the Bankers' Books Evidence Act, 1891 and introduce a modern law.

NITI Aayog Report on Key Sectors to Position India as a Global Manufacturing Hub

Context:

Recently, NITI Aayog, in collaboration with CRISIL Intelligence, released the report "Key Sectors to Position India as a Global Manufacturing Hub (Volume-I)". It provides an evidence-based roadmap to transform India from a consumption-driven economy into a globally competitive manufacturing powerhouse and support the vision of Viksit Bharat@2047.

Key Features of the Report:

- **Manufacturing and Demographic Dividend:** Manufacturing contributes around 17.5% of India's GVA. The report seeks to increase manufacturing value addition to support

Significance:

- The Bill replaces a colonial-era, paper-based framework with a technology-neutral system suited to modern banking. It can:
 - » facilitate the use of digital evidence in courts;
 - » reduce unnecessary litigation-related burdens on bank officials;
 - » provide greater certainty regarding

India's vision of a USD 30 trillion economy by 2047. With a median age of around 28 years, India can leverage its demographic dividend by creating formal and productive industrial employment.

- **Identification of High-Potential Sectors:** Out of 62 sectors, a four-phase evaluation framework identified 12 high-potential sectors. Volume-I focuses on:

- » Chemicals
- » Textiles and Apparel
- » Telecom and Networking Equipment
- » Solar PV Manufacturing

- The remaining sectors include electronics, automobiles, pharmaceuticals, capital goods, defence and drones, steel, food processing, and leather and footwear.

Sector-Specific Priorities:

- **Chemicals:** The report targets expansion of the domestic chemical market from USD 200–220 billion in FY25 to USD 290–310 billion by FY30. It emphasizes specialty chemicals and reducing dependence on imported feedstocks such as methanol and acetic acid.
- **Textiles and Apparel:** India aims to achieve a USD 350 billion textile industry with USD 100 billion exports by FY30. The focus is on man-made fibres (MMF), technical textiles, modernisation of MSMEs and improved cotton productivity.
- **Telecom and Networking:** The report calls for deeper localisation of 5G/6G equipment, routers, GPON and optical systems, moving beyond basic assembly towards component manufacturing and higher domestic value addition.
- **Solar PV:** India seeks an integrated solar value chain covering polysilicon, ingots, wafers, cells and modules, reducing import dependence and supporting the expansion of solar capacity towards the 280 GW target by 2030.



Major Challenges:

- **Import dependence:** Critical chemical feedstocks, solar wafers and telecom components are heavily import-dependent.
- **Inverted duty structures:** Higher duties on inputs can make domestic production less competitive.
- **MSME fragmentation:** Small-scale units often suffer from outdated technology and limited access to finance.
- **Logistics constraints:** Port inefficiencies and inadequate multimodal connectivity raise costs.
- **Low productivity and R&D:** Technology gaps and limited private R&D constrain high-value manufacturing.

Key Recommendations:

- NITI Aayog recommends VGF and PLI support for critical upstream capabilities, rationalisation of GST and customs duties, and development of plug-and-play manufacturing hubs.
- It also proposes modernising ports and integrating them with PM Gati Shakti, strengthening R&D and technology transfers, and pursuing strategic FTAs to expand export markets.

Significance:

- The report seeks to shift India from low-end assembly to high-value manufacturing by strengthening entire value chains, from raw materials and components to technology, R&D and exports. This can boost employment, exports, import substitution

and supply-chain resilience.

Conclusion:

NITI Aayog's roadmap provides a strategic framework for building a globally competitive manufacturing ecosystem. Effective implementation, technological upgrading and stronger upstream capabilities can help India enhance its manufacturing share, create productive employment and realise the vision of Viksit Bharat@2047.

Surrogate Advertising in India

Context:

Recently, The Maharashtra Food and Drug Administration (FDA) has issued show-cause notices to actors Shah Rukh Khan, Ajay Devgn and Tiger Shroff over their endorsement of a Vimal Elaichi advertisement. The regulator has alleged that the advertisement may amount to surrogate advertising of Vimal Pan Masala, a product prohibited in Maharashtra. The actors have been given 15 days to explain their role and submit relevant documents.

What is Surrogate Advertising?

- Surrogate advertising is a marketing strategy used to indirectly promote products whose advertising is restricted or prohibited by law, such as tobacco, pan masala or alcohol.
- A company may promote another legally permissible product using the same brand name, logo, packaging style, celebrities or visual identity, thereby maintaining consumer awareness of the restricted product.
- The key concern is whether the apparently legal product is actually being used as a means to promote a prohibited product.

What Does the Maharashtra FDA Say?

- Maharashtra has prohibited gutkha and pan masala containing tobacco or nicotine under Section 30(2)(a) of the Food Safety and Standards Act, 2006. The current

prohibition has been in force since July 13, 2026.

- According to the FDA, the Vimal Elaichi advertisement's presentation, dialogue, product name and market association may indirectly promote the Vimal Pan Masala brand.



What Does the Law Say?

- Consumer Protection Act, 2019:**
 - Section 2(28) defines a misleading advertisement as one that falsely describes a product, misleads consumers about its nature or quality, promotes an unfair trade practice or deliberately conceals important information.
 - Section 21 empowers the Central Consumer Protection Authority (CCPA) to order discontinuation or modification of misleading advertisements and impose penalties on endorsers.
- CCPA Guidelines, 2022:**
 - The Guidelines for Prevention of Misleading Advertisements and Endorsements for Misleading Advertisements, 2022 specifically recognise surrogate advertising.
 - The CCPA can impose penalties of up to Rs.10 lakh for a first contravention and up to Rs.50 lakh for subsequent violations. An endorser may also be prohibited from making endorsements

for up to one year, and up to three years for subsequent violations.

▪ **Food Safety and Standards Act:**

- » The FDA has invoked Section 24, which restricts misleading food advertisements, and Section 53, which provides for a penalty of up to Rs.10 lakh for parties involved in publishing misleading food advertisements.

Why Is the Case Significant?

- The case highlights the growing regulatory challenge of distinguishing between a genuine legal product and a brand-extension strategy designed to indirectly advertise a prohibited product.
- It also raises questions about the responsibility of celebrities. Endorsers are increasingly expected to conduct due diligence before associating themselves with potentially misleading advertisements.

Conclusion:

The Vimal Elaichi controversy highlights the tension between commercial freedom and public-health regulation. While companies can legally advertise permissible products, regulators must ensure that such advertisements do not become a vehicle for promoting prohibited tobacco products. The case also reinforces the growing accountability of advertisers, brands and celebrity endorsers under India's consumer-protection framework.

Mobile Phone Manufacturing Scheme (MPMS) 2026

Context:

Recently, the Ministry of Electronics and Information Technology (MeitY) has notified the Mobile Phone Manufacturing Scheme (MPMS) with a budgetary outlay of ₹62,500 crore. The scheme will operate for five years from FY 2026-27 to FY 2030-31 and aims to enhance India's global competitiveness, deepen domestic value addition and strengthen the mobile phone

manufacturing ecosystem.

Background:

- The MPMS succeeds the Production Linked Incentive (PLI) Scheme for Large Scale Electronics Manufacturing (PLI-LSEM), whose tenure ended on 31 March 2026.
- While the earlier PLI framework focused significantly on scaling production and exports, the MPMS places greater emphasis on Indian-owned brands, indigenous intellectual property, product design, R&D and domestic sourcing.
- India is currently the world's second-largest mobile phone manufacturer by volume, with around 99.2% of mobile phones used in India manufactured domestically. Smartphones also emerged as India's largest exported product category in 2025.

Key Objectives:

- The scheme aims to:
 - » Expand mobile phone manufacturing at scale.
 - » Increase domestic value addition (DVA).
 - » Strengthen domestic component and sub-assembly supply chains.
 - » Promote Indian-owned mobile phone brands.
 - » Encourage indigenous IP, product design and R&D.
 - » Integrate India further into global value chains (GVCs).
 - » Generate employment and strengthen Aatmanirbhar Bharat.

Two Target Segments:

- The MPMS has two target segments.
 - » **Target Segment 1 (TS1):** It focuses on mobile phone manufacturing and provides differentiated incentives ranging from 2.25% to 5% on eligible sales. The incentives are structured to taper over the five-year period rather than being uniform.
 - » **Target Segment 2 (TS2):** It specifically supports Indian mobile phone brands. Eligible Indian brands receive a 5%

incentive, with an additional 3% incentive for domestic design and R&D. Non-fiscal support will also be provided.

MAKING INDIA A GLOBAL MOBILE MANUFACTURING POWER

CABINET APPROVES MOBILE PHONE MANUFACTURING SCHEME (MPMS)

- ₹62,500 crore** budgetary outlay
- 2.25%-5%** incentive on eligible mobile phone sales
- Up to **1.5% extra** for domestic sourcing of key components
- 3% additional incentive** for Indian brands investing in product design & R&D
- ₹39 lakh crore** projected cumulative mobile phone production
- 60,000 direct jobs** expected to be created

Indian Brand & Indigenous IP:

- A major feature of MPMS is its focus on genuine Indian ownership. To qualify under TS2, a company must have its registration or incorporation in India, ownership of IP and trademarks in India, management control by Indian citizens, and more than 51% shareholding held by Indian citizens.
- It must also possess in-house R&D and design capabilities in India. This represents a shift from merely manufacturing phones in India towards creating Indian technology, brands and intellectual property.

Domestic Sourcing Incentive:

- The scheme provides an additional incentive of up to 1.5% for domestic sourcing of key components and sub-assemblies.
- To qualify, the relevant components must be localised for at least 25% of the total mobile phone units manufactured by the applicant

in a financial year.

- The localisation push can cover components such as display and camera modules, batteries, enclosures and USB cables. The objective is to encourage deeper backward integration rather than limiting India's role to final assembly.

Eligibility:

- Under TS1, mobile phone manufacturers, including Electronics Manufacturing Services (EMS) providers, registered in India must have recorded a minimum turnover of Rs.10,000 crore in FY 2025-26.
- Under TS2, applicants must have a minimum turnover of ₹1,000 crore in FY 2025-26 and satisfy the prescribed criteria for being an Indian brand.

Significance:

- The MPMS can help India move from assembly-led manufacturing towards deeper domestic value addition. The additional localisation incentive can encourage component manufacturing, while the dedicated Indian-brand segment can promote domestic ownership of technology, design and IP.
- The scheme is also expected to strengthen employment and expand opportunities for Indian manufacturers and MSMEs associated with the electronics supply chain.



Defence and Internal Security

Transfer of Conventional Missile Technologies: A Significant Step Towards Defence Self-Reliance

Context:

Recently, Defence Minister Rajnath Singh approved the transfer of technology of all conventional missile systems developed by the Defence Research and Development Organisation (DRDO) to the Indian defence industry. The objective of this decision is to take missile technologies developed by DRDO beyond the laboratory and testing stage and convert them into large-scale industrial production, thereby strengthening India's defence manufacturing capabilities. This initiative is considered significant for promoting self-reliance in the defence sector, increasing private-sector participation, and strengthening indigenous defence manufacturing.

Key Highlights of the Decision:

- Under this decision, the technology of conventional missile systems developed by DRDO will be made available to eligible Indian defence companies through Transfer of Technology (ToT). The objectives include:
 - » Scaling up the production of missile systems;
 - » Utilising the manufacturing capabilities of the private sector;
 - » Connecting DRDO's research and development capabilities

with industrial production;

- » Reducing dependence on defence imports;
 - » Strengthening the domestic defence supply chain; and
 - » Developing adequate production capacity to meet the operational requirements of the armed forces.
- Companies will be selected through a prescribed process and competitive bidding, while compliance with the required technical and quality standards will be mandatory.

DRDO's Conventional Missile Systems:

- Over the past several decades, DRDO has developed various types of conventional missile systems for India. These include air-to-air missiles, anti-radiation missiles, anti-tank missiles, and air defence systems. Examples of major systems in this category



include:

- » **ASTRA:** An indigenous Beyond Visual Range Air-to-Air Missile (BVRAAM) developed to engage enemy aerial targets from fighter aircraft.
- » **RUDRAM:** An indigenous anti-radiation missile developed to neutralise enemy radars, communication systems, and other radiation-emitting targets.
- » **NAG:** An Anti-Tank Guided Missile (ATGM) developed to accurately destroy modern armoured vehicles and tanks.
- » **VSHORADS:** A Very Short-Range Air Defence System developed to protect troops and critical installations from enemy aircraft, helicopters, and other aerial threats at short ranges.
- » **NASM-SR:** A Naval Anti-Ship Missile – Short Range, developed to engage enemy warships and other maritime targets from naval platforms.
- However, the actual technology-transfer process for each system will be determined according to the relevant technical, security, and production requirements.
- This initiative does not cover strategic missile systems. For instance, strategic missile systems such as Agni and the K-series are outside the scope of this arrangement.

Conventional Missiles vs Strategic Missiles:

Conventional Missiles	Strategic Missiles
Primarily used in conventional military operations.	Primarily associated with strategic deterrence.
Include air-to-air, anti-tank, air defence, and anti-radiation missiles.	Primarily include systems associated with nuclear weapon delivery and nuclear deterrence capabilities.
Relatively greater scope for industrial-scale production and technology transfer.	Technologies are highly sensitive and subject to strict controls.

What is Transfer of Technology (ToT)?

- Transfer of Technology (ToT) refers to the process through which technology developed by one organisation is made available to another eligible organisation in a manner that enables it to manufacture the product and undertake the necessary technical processes based on that technology.
- In the defence sector, ToT does not merely involve providing the design of a weapon system. It may include technical documentation related to production, manufacturing processes, quality standards, testing-related information, and necessary technical support.
- Under this arrangement, DRDO will primarily be responsible for technology development and technical cooperation, while selected Indian companies will play the role of converting the technology into industrial-scale production.

Role of the Private Sector:

- India's defence production system was traditionally dominated by government institutions and defence public sector undertakings. In recent years, the government has increasingly focused on providing greater opportunities to private industry and start-ups in the defence sector.
- The transfer of missile technologies can expand the role of the private sector at several levels.
 - » **Increase in Production Capacity:** The participation of a larger number of companies in the production ecosystem can increase the overall production capacity of missiles. This can help meet the requirements of the armed forces more rapidly.
 - » **Competition and Innovation:** Competition among private companies can improve cost efficiency, quality, and production efficiency. At the same time, companies may receive greater incentives to undertake technological

upgrades and develop new variants.

- » **Boost to the MSME Ecosystem:** Missile manufacturing requires capabilities in areas such as electronics, sensors, propulsion, software, composite materials, and precision engineering. This can create opportunities not only for major defence companies but also for MSMEs and start-ups.

Impact on India's Defence Self-Reliance:

- This decision is aligned with the defence-related priorities of Atmanirbhar Bharat and Make in India.
- Defence self-reliance does not simply mean reducing imports of foreign weapons. Genuine self-reliance requires the development of an entire domestic ecosystem covering research and development, design, testing, production, integration, maintenance, and upgradation.
- By transferring technologies developed by DRDO to Indian industry, the gap between research institutions and the manufacturing sector can be reduced.
- Its potential impacts include:
 - » Reduction in dependence on imports;
 - » Growth of domestic defence manufacturing;
 - » Expansion of indigenous technological capabilities;
 - » Localisation of the defence supply chain;
 - » Employment and skill development;
 - » Encouragement of private investment in the defence sector; and
 - » Greater potential for defence exports in the future.

Strategic and Tactical Significance:

- The role of conventional missile systems in modern warfare is continuously increasing. Capabilities such as precision strikes, air defence, anti-ship warfare, and anti-armour operations have become increasingly important in military operations.
- In this context, adequate domestic missile production capacity can strengthen

India's military preparedness and strategic autonomy.

- » **Meeting Wartime Requirements:** Long-duration conflicts require a continuous supply of weapons and missiles. Domestic production capacity can help ensure rapid replenishment during wartime.
- » **Securing the Supply Chain:** Excessive dependence on foreign suppliers can create vulnerabilities during geopolitical tensions or global supply disruptions. Domestic production can reduce these risks.
- » **Expansion of the Defence Industrial Base:** Missile manufacturing will also contribute to the development of technological capabilities in areas such as propulsion, guidance systems, seekers, electronics, sensors, and advanced materials.
- » **Potential for Defence Exports:** If Indian industry becomes capable of producing missile systems of high quality at competitive costs, it can further strengthen India's defence export potential in the future.

Challenges:

- **Absorption of Technology:** Acquiring technology and successfully converting it into large-scale production are two different processes. Companies must possess adequate technical expertise and manufacturing capabilities.
- **Quality and Reliability:** Missile systems are highly sensitive and complex defence systems. Even a minor deficiency in quality or reliability can have serious operational consequences.
- **Import Dependence in Critical Components:** If critical components of missiles continue to be sourced from foreign suppliers, merely making the final assembly indigenous cannot be considered genuine self-reliance.
- **Need for Adequate Orders:** Private companies require substantial investment to develop

production capacity. Therefore, a long-term and stable defence procurement policy is essential.

- **Security and Protection of Sensitive Technology:** The transfer of sensitive military technologies requires strong cybersecurity, protection of intellectual property, and mechanisms to prevent unauthorised dissemination of technical information.

Way Forward:

- India should not restrict this initiative merely to technology transfer but should develop it as part of a broader defence industrial strategy. For this purpose:
 - » Private industry should be provided with long-term and clear procurement commitments.
 - » Continuous technical cooperation and knowledge transfer between DRDO and industry should be ensured.
 - » MSMEs and start-ups should be integrated into the defence supply chain through appropriate incentives.
 - » Special emphasis should be placed on the indigenous development of critical components.
 - » Institutional capacity for testing,

certification, and quality control should be strengthened.

- » Private investment in research and innovation in defence production should be encouraged.
- » Global quality standards and reliable supply systems should be strengthened to promote exports of indigenous defence systems.

Conclusion:

The decision to transfer DRDO-developed conventional missile technologies to the Indian defence industry represents a significant shift in India's defence production ecosystem. Its importance lies not merely in expanding missile production to the private sector, but in converting DRDO's research capabilities into large-scale industrial production capacity. If the technology transfer is accompanied by adequate production capacity, skilled human resources, resilient supply chains, stringent quality control, and continuous innovation, the initiative can become an important step towards transforming India from a major importer of defence equipment into a capable and competitive defence manufacturer and exporter.

Short Issues

Agni-IV Intermediate-Range Ballistic Missile (IRBM)

Context:

Recently, India successfully test-fired the Agni-IV Intermediate-Range Ballistic Missile (IRBM) from the Integrated Test Range (ITR), Chandipur, Odisha, under the aegis of the Strategic Forces Command (SFC). The successful launch validated all operational and technical parameters, reaffirming the missile's operational readiness and strengthening India's strategic deterrence capability.

About Agni-IV:

- Agni-IV is an indigenously developed, nuclear-capable Intermediate-Range Ballistic Missile (IRBM) designed by the Defence Research and Development Organisation (DRDO).
- It is part of the Agni missile series, developed under the Integrated Guided Missile Development Programme (IGMDP), and forms a key component of India's credible minimum deterrence and No First Use (NFU) nuclear doctrine.

Key Features:

- Agni-IV is a two-stage, solid-fuel-powered, nuclear-capable Intermediate-Range Ballistic Missile (IRBM).
- It has a strike range of 3,500–4,000 km.
- The missile is approximately 20 metres long and weighs around 17 tonnes.
- It can carry a 1,000 kg conventional or nuclear warhead.
- Agni-IV is deployed on a road-mobile and canister-compatible launch platform, ensuring rapid deployment, enhanced mobility, and greater survivability.
- It is equipped with a Ring Laser Gyroscope-based Inertial Navigation System (RINS) integrated with a Micro Navigation System (MINS), enabling highly accurate target engagement.
- Additionally, the missile features an advanced Re-entry Heat Shield, capable of withstanding temperatures exceeding 3,000°C during atmospheric re-entry, thereby protecting the warhead and onboard electronic systems.

Significance:

- Agni-IV significantly enhances India's long-range precision strike capability and provides credible deterrence against regional threats.
- Its solid-fuel propulsion and mobile launch platform ensure quick deployment, while indigenous technologies reduce dependence on foreign systems and strengthen the Aatmanirbhar Bharat initiative in defence manufacturing.
- The missile complements India's strategic triad and enhances national security by supporting a robust second-strike capability.

Agni Missile Series:

- The Agni series represents India's family of nuclear-capable ballistic missiles with varying operational ranges:
- **Agni-I:** 700–1,200 km (Short Range).
- **Agni-II:** 2,000–3,000 km (Medium Range).
- **Agni-III:** 3,000–3,500 km (Intermediate

Range).

- **Agni-IV:** 3,500–4,000 km (Advanced Intermediate Range).
- **Agni-V:** 5,000–5,500+ km (Long Range, Canisterised).
- **Agni-Prime (Agni-P):** 1,000–2,000 km; next-generation, lighter, highly manoeuvrable missile.

AGNI MISSILE SERIES BREAKDOWN

AGNI-IV

Advanced IRBM

RANGE
**3,500–
4,000 km**

PURPOSE | Tactical nuclear deterrence against neighbouring threats

TECHNOLOGY | Ring laser gyro and composite rocket motor

CAPABILITY | Nuclear-capable precision strike missile

AGNI-V

RANGE
5,000+ km

INTERCONTINENTAL BALLISTIC MISSILE (ICBM)

STAGES | Three-stage solid-fuel missile

TECHNOLOGY | Canister launch system and MIRV capability

KEY FEATURE | Faster launch readiness and multiple warhead delivery

STATUS | Successfully tested with MIRV technology in 2024 and 2025

AGNI-P (Prime)

NEXT-GENERATION BALLISTIC MISSILE

RANGE
**1,000–
2,000 km**
(estimated)

PURPOSE | Replacement for Agni-I and Agni-II

TECHNOLOGY | Lighter composite body with advanced guidance

KEY FEATURE | High accuracy and dual-canister launch capability

Conclusion:

The successful test of Agni-IV reinforces India's strategic deterrence architecture and

showcases the country's growing self-reliance in advanced defence technologies. As a vital element of India's nuclear doctrine, the missile enhances national security while contributing to regional strategic stability through a credible and reliable deterrence posture.

Yard 3037 'Shruti'

Context:

Recently, Yard 3037, named 'Shruti', a Next Generation Offshore Patrol Vessel (NGOPV) built for the Indian Navy, was launched at Garden Reach Shipbuilders & Engineers (GRSE), Kolkata. The launch marks another step in India's efforts to strengthen maritime surveillance, coastal security, and indigenous warship construction.

About 'Shruti':

- 'Shruti' is the second NGOPV launched by GRSE under a programme for building four such vessels. The wider NGOPV programme involves the construction of 11 vessels, with seven being built by Goa Shipyard Limited (GSL) and four by GRSE.
- The vessels are designed as versatile platforms capable of undertaking both maritime-security and support operations.

Key Features:

- The NGOPVs are approximately 113 metres long, have a displacement of around 3,000 tonnes and can achieve a design speed of about 23 knots. They have an endurance of approximately 8,500 nautical miles at 14 knots, enabling prolonged operations at sea.

Operational Significance:

- 'Shruti' will strengthen the Navy's ability to conduct maritime surveillance, anti-piracy operations, coastal security, search and rescue, protection of offshore assets and anti-trafficking missions.
- Such vessels can undertake routine maritime-security duties while allowing larger frontline warships to focus on high-

end combat operations.

ABOUT YARD 3037 'SHRUTI'					
TYPE Next Generation Offshore Patrol Vessel (NGOPV)	LENGTH Approx. 116.6 m	DISPLACEMENT Approx. ~2,500 tonnes	SPEED More than 23 knots	ROLE Maritime surveillance, coastal security, search & rescue, anti-piracy operations	FEATURES Indigenously designed with advanced sensors, modern weapon systems and endurance

Aatmanirbhar Bharat:

- The NGOPV programme is an important component of Atmanirbhar Bharat in defence. The Rs.9,781-crore contract for 11 NGOPVs was signed in March 2023 under the Buy (Indian-IDDMM) category, emphasising indigenous design, development and manufacturing.
- The programme is also expected to generate substantial employment and provide opportunities for Indian defence manufacturers, shipbuilding companies and MSMEs.

Strategic Importance:

- India's expanding maritime interests in the Indian Ocean Region require persistent surveillance and rapid response capabilities.
- NGOPVs can help protect sea lanes, offshore infrastructure and coastal areas while addressing non-traditional threats such as piracy, illegal fishing, trafficking and infiltration.

Conclusion:

The launch of Yard 3037 'Shruti' demonstrates India's growing indigenous shipbuilding

capability and its focus on maritime security. The NGOPV programme combines naval modernisation, coastal surveillance, defence indigenisation and industrial development, strengthening India's position as a capable maritime power in the Indian Ocean Region.

Third Anti-Submarine Warfare Shallow Water Craft, 'Mangrol'

Context:

On 21 August 2026, the Indian Navy received 'Mangrol', the third Anti-Submarine Warfare Shallow Water Craft (ASW-SWC) built by Cochin Shipyard Limited (CSL), Kochi. The induction strengthens India's capability to detect and counter underwater threats in shallow and coastal waters.

What is ASW-SWC?

- An Anti-Submarine Warfare Shallow Water Craft is a specialised naval vessel designed to detect, track and engage submarines in littoral waters.
- These compact "pocket warships" are particularly useful where larger destroyers and frigates face limitations due to shallow depths and complex underwater conditions.

Key Features of Mangrol:

- Mangrol is a Mahe-class ASW Shallow Water Craft built by Cochin Shipyard Limited with over 80% indigenous content. It uses waterjet propulsion, enabling high manoeuvrability in shallow coastal waters, and can achieve a speed of around 25 knots with an endurance of approximately 1,800 nautical miles.
- The vessel is equipped with advanced torpedoes,

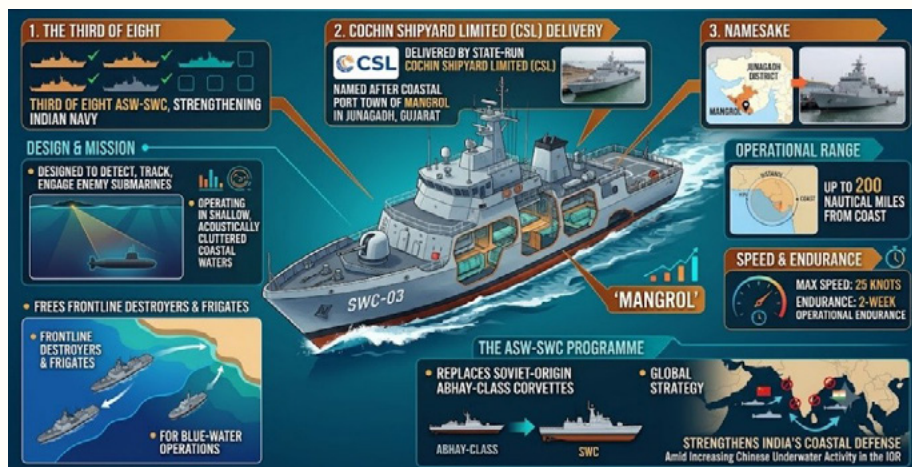
anti-submarine rockets, radars and sonar systems for underwater surveillance and submarine detection.

- Besides anti-submarine warfare, it can undertake Low-Intensity Maritime Operations (LIMO), mine warfare and coastal security missions, making it a versatile platform for littoral operations.



About ASW-SWC Programme:

- The Indian Navy's ASW-SWC programme envisages 16 vessels, with eight being constructed by Cochin Shipyard Limited (CSL) and eight by Garden Reach Shipbuilders & Engineers (GRSE).
- The CSL-built vessels form the Mahe class, while the GRSE-built vessels form the



Arnala class. The programme is aimed at replacing ageing platforms and enhancing the Navy's specialised shallow-water warfare capabilities.

Strategic Significance:

- **Strengthening Maritime Security:** India has a vast coastline and growing maritime interests. ASW-SWCs provide dedicated capabilities to monitor and counter submarines operating close to the Indian coastline, naval bases and important maritime approaches.
- **Boost to Aatmanirbhar Bharat:** With more than 80% indigenous content, Mangrol highlights the growing capabilities of Indian shipyards and domestic defence manufacturers. It supports the government's objective of achieving greater self-reliance in defence production.
- **Enhanced Littoral Warfare:** Waterjet propulsion gives these vessels high manoeuvrability and makes them well suited for shallow coastal environments. Their multi-role design also allows them to undertake mine warfare and low-intensity maritime operations.

Naming Significance:

- Mangrol is named after the coastal town and minor port of Mangrol in Gujarat's Junagadh district. The name also carries forward the legacy of the erstwhile INS Mangrol, an Indian Navy minesweeper that served until 2004.

Conclusion:

The delivery of Mangrol is an important milestone in India's naval modernisation and indigenous defence manufacturing. By strengthening shallow-water anti-submarine capabilities and reducing dependence on foreign platforms, the ASW-SWC programme contributes to a more self-reliant, technologically capable and secure Indian maritime architecture.

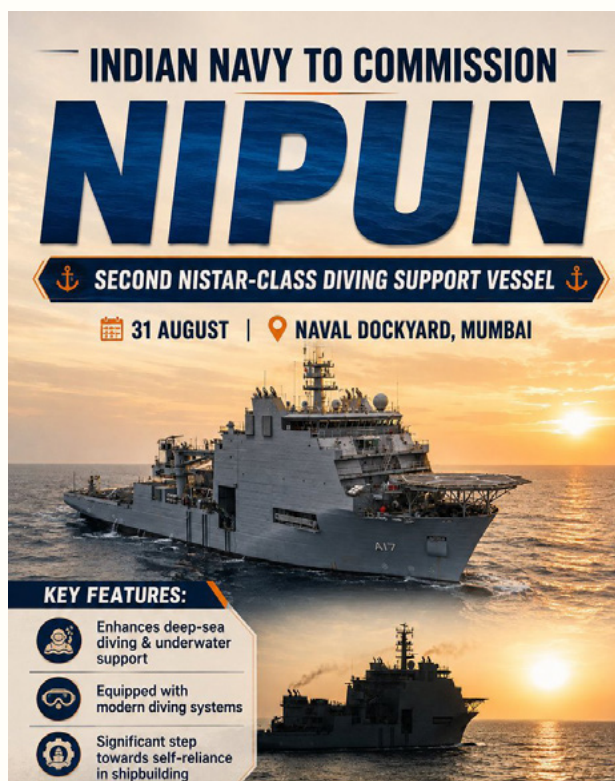
INS Nipun: India's Indigenous Diving Support Vessel

Context:

The Indian Navy is set to commission INS Nipun, the second indigenously designed and built Diving Support Vessel (DSV) of the Nistar-class, on 31 August 2026 at Naval Dockyard, Mumbai.

What is a Diving Support Vessel (DSV)?

- A Diving Support Vessel is a specialised naval platform designed to support complex underwater operations. It acts as a base for divers, underwater vehicles and rescue systems and can operate for prolonged periods at sea.
- The Nistar-class DSVs were designed for deep-sea diving and submarine rescue operations. When equipped with a Deep Submergence Rescue Vehicle (DSRV), they can function as a mother ship for rescuing and evacuating personnel from distressed submarines.



Indigenous Design and Construction:

- INS Nipun has been indigenously designed and constructed by Hindustan Shipyard Limited (HSL), Visakhapatnam, in accordance with the classification rules of the Indian Register of Shipping (IRS).
- The vessel has around 75% indigenous content, reflecting India's growing capability in specialised naval shipbuilding and supporting the objectives of Aatmanirbhar Bharat. The project also involved more than 120 Indian MSME vendors, promoting domestic industrial participation.

Key Capabilities:

- **Deep-Sea Diving:** Equipped with advanced diving systems and capable of deep-sea saturation diving.
- **Underwater Intervention:** Supports complex underwater operations and diver monitoring.
- **ROVs:** Remotely Operated Vehicles enhance underwater inspection, monitoring and salvage operations.
- **Submarine Rescue:** Can serve as the mother ship for DSRVs to rescue personnel from distressed submarines.
- **Side Diving Stage:** Enables specialised diving operations.
- **Medical and Support Facilities:** Provides integrated support for personnel involved in demanding underwater missions.

About INS Nistar and INS Nipun:

- INS Nistar was the first indigenously designed and constructed Diving Support Vessel and was commissioned in July 2025. It was also built by HSL and is designed for deep-sea diving and submarine rescue operations.
- With Nistar and Nipun, India is strengthening its specialised underwater support infrastructure and reducing dependence on foreign platforms for critical naval operations.

Strategic Significance:

- **Enhances Submarine Rescue Capability:**

Submarine accidents can involve extreme depths and require rapid, specialised rescue systems. DSVs provide a dedicated platform for deploying rescue vehicles and supporting underwater rescue operations.

- **Strengthens Maritime Security:** The vessels improve India's ability to conduct underwater surveillance, inspection, salvage and rescue across its maritime areas of interest.
- **Promotes Aatmanirbharta:** Indigenous construction of specialised vessels demonstrates the growing technological capabilities of India's defence shipbuilding ecosystem and supports Make in India and Aatmanirbhar Bharat.
- **Strengthens Blue-Water Naval Capability:** Deep-sea support vessels enable the Navy to undertake complex operations far from the coastline and contribute to India's broader maritime security and blue-water naval capabilities.

Conclusion:

The commissioning of INS Nipun marks another step towards building a technologically advanced and self-reliant Indian Navy. Its specialised capabilities in deep-sea diving, underwater intervention, salvage and submarine rescue will enhance India's maritime preparedness while strengthening indigenous defence manufacturing.

Place in News

Kuril Islands

Russia summoned the Japanese ambassador following Japan's criticism of Russian President Vladimir Putin's visit to Iturup. Iturup is one of the Kuril Islands that are the subject of a dispute between the two countries.

- The Kuril Islands are a volcanic island chain extending for about 1,300 km between Hokkaido in Japan and the Kamchatka Peninsula in Russia. The archipelago consists of numerous islands and contains more than 100 volcanoes, including several active ones.
- The islands occupy a strategically important location between the Sea of Okhotsk and the North Pacific Ocean.

Historical Background:

- The Soviet Union occupied the Kuril Islands during the final stages of World War II in 1945, following Japan's defeat. Japan disputes Russian sovereignty over the four southernmost islands also known as Kuril Islands in Russia:
 - » Iturup (Etorofu)
 - » Kunashir (Kunashiri)
 - » Shikotan
 - » Habomai Islands
 - » Japan collectively refers to these as the Northern Territories.
- The territorial disagreement has prevented Russia and Japan from concluding a formal post-war peace treaty, despite periods of diplomatic negotiations.

Strategic Significance:

- The Kuril Islands have considerable geopolitical, military and economic importance.
 - » They provide Russia with access between the Sea of Okhotsk and the Pacific Ocean.
 - » The islands are strategically important for Russia's Pacific Fleet and regional defence.
 - » Their location provides Russia with control over important maritime approaches.
 - » The surrounding waters are rich in fisheries and marine resources.
 - » The islands are part of a highly active volcanic and tectonic region.

Important Oceans and Water Bodies:

- **Sea of Okhotsk:** The Sea of Okhotsk lies on the north-western side of the Kuril chain. It is a marginal sea of the western Pacific and is largely enclosed by Russia, Japan and the Kuril



Islands.

- **North Pacific Ocean:** The Pacific lies on the southeastern side of the island chain. The Kuril-Kamchatka Trench, a major deep-sea trench, is located in this region and represents an active subduction zone.

Major Straits and Passages:

- The gaps between the islands facilitate water exchange between the Sea of Okhotsk and the Pacific Ocean.
 - » **Bussol' Strait:** One of the deepest passages in the central Kurils and an important route for water exchange.
 - » **Kruzenshtern Strait:** A major northern/central passage facilitating exchange between the Sea of Okhotsk and the Pacific.
 - » **Vries Strait:** Located between Iturup and Urup and important for marine circulation.
 - » **Ekaterina Strait:** A southern passage contributing to regional water exchange.
 - » **Kuril Strait:** Located toward the northern end of the island chain near the Kamchatka Peninsula.

Lake Ontario

US President Donald Trump signed an executive order on August 27 to rename Lake Ontario, shared by the United States and Canada, as "Lake America" for official US federal usage.

What is Lake Ontario?

- Lake Ontario is one of North America's five Great Lakes.
- It lies between the Canadian province of Ontario and the US state of New York.
- It is the smallest Great Lake by surface area.
- It receives water mainly from Lake Erie through the Niagara River.
- Its waters flow into the Atlantic Ocean through the St. Lawrence River.
- It is an important route for navigation, trade and freshwater supply.

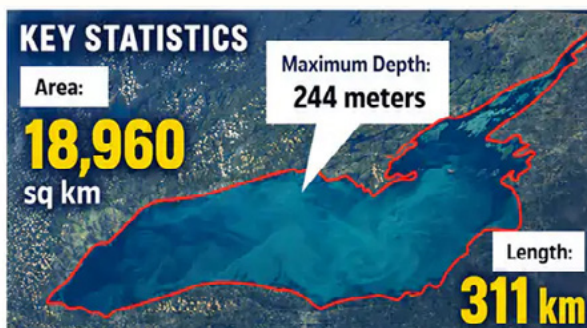
About Great Lakes System:

- The Great Lakes are a chain of five interconnected freshwater lakes: Superior, Michigan, Huron, Erie, Ontario.
- Lake Michigan lies entirely within the United States, while the other four are shared by the US and Canada.
- The Great Lakes collectively contain about 20% of the world's surface freshwater and are vital for drinking water, agriculture,



LOCATION

Located between Ontario, Canada and New York, USA



industries, navigation and ecosystems.

Danube River

The Danube River is in the news due to severe heatwaves and prolonged drought in Central and Eastern Europe, which have caused its water levels to fall significantly.

About Danube River:

- The Danube River is Europe's second-longest river after the Volga, flowing for about 2,850 km from Germany to the Black Sea. It begins at Donaueschingen, where the Brigach and Breg rivers meet in Germany's Black Forest, and flows generally eastward before entering the Black Sea through the Danube Delta.
- **Geographic Key Facts:**
 - » **Length:** Approximately 2,850 km
 - » **Source:** Donaueschingen, in the Black Forest region of Germany
 - » **Direction of flow:** Mainly eastward
 - » **Mouth:** The Black Sea, through the Danube Delta
- The Danube Delta is located mainly in Romania and Ukraine.
- The Danube River flows through or forms the borders of 10 countries:
 - » Germany
 - » Austria
 - » Slovakia
 - » Hungary
 - » Croatia
 - » Serbia
 - » Romania
 - » Bulgaria
 - » Moldova
 - » Ukraine
- The Danube River passes through or touches four national capitals:
 - » Vienna — Austria
 - » Bratislava — Slovakia
 - » Budapest — Hungary
 - » Belgrade — Serbia



Major Tributaries:

- The major tributaries of the Danube include:
 - » Tisza
 - » Sava
 - » Drava
 - » Inn
 - » Prut
 - » Siret

Importance:

- The Danube River is extremely important in Europe in several ways. It:
 - » Serves as a major transportation route.
 - » Plays an important role in trade.
 - » Is used for hydroelectric power generation.
 - » Is an important source of drinking water.
 - » Serves as an important ecological corridor.

Danube Delta:

- The Danube Delta is an important wetland ecosystem. The region is extremely rich and significant in terms of biodiversity.

Nauru

The Pacific island nation of Nauru is in the news after officially changing its name to the Republic of Naoero, restoring its traditional indigenous name.

About Nauru:

- Nauru is located in the central Pacific Ocean, just south of the Equator, in the Micronesia sub-region of Oceania and northeast of Australia.
- It is a raised coral atoll, characterised by a central phosphate plateau and coastal coral formations; its highest point is Command Ridge (about 71 m).
- Nauru has no official capital, while Yaren functions as the de facto administrative centre.
- The country has no major rivers or significant natural freshwater bodies and depends largely on rainfall and desalination.
- Historically, Nauru was annexed by Germany, later administered under international mandates and gained independence in 1968.
- Its economy was once heavily dependent on phosphate mining, which also caused severe environmental degradation.
- Politically, it is a unitary parliamentary republic with a 19-member unicameral parliament.



Power Packed News

Himachal Pradesh's First Ozone-Based Drinking Water Treatment Project

- Himachal Pradesh Chief Minister Sukhvinder Singh Sukhu has unveiled the state's first ozone-based drinking water treatment project at Baddal Thor in the Dehra Assembly constituency of Kangra district. The state government has allocated a budget of Rs.46 crore for the project to provide clean and high-quality drinking water to the people.
- Instead of conventional chlorine, the plant will use ozone gas (O₃). Ozone is a powerful oxidising agent that destroys bacteria, viruses and microorganisms present in water while also improving its taste and odour. Following the successful launch of the project in Dehra, the state government plans to implement similar projects based on this modern technology across Himachal Pradesh.

FIH Men's Hockey World Cup 2026

- Germany defeated Spain 1–0 in the thrilling final of the FIH Men's Hockey World Cup 2026 at the Belfius Hockey Arena in Wavre, Belgium, to win the World Cup title for the second consecutive time and for the fourth time overall (2002, 2006, 2023 and 2026). With this victory, Germany equalled Pakistan's record of four World Cup titles, the joint-highest in men's hockey history.
- The tournament was jointly hosted by Belgium and the Netherlands from 15 to 30 August 2026. The final was played at the Belfius Hockey Arena in Belgium. Germany's Michel Struthoff scored the only and winning goal of the final in the 44th minute.
- Argentina defeated the Netherlands 2–1 to win the bronze medal and secure third place. The Indian men's hockey team finished eighth in the tournament.
- **Major Awards:**
 - » **Player of the Match (Final):** Christopher Ruhr (Germany)
 - » **Best Player and Top Scorer:** Tomas Domene (Argentina)
 - » **Best Goalkeeper:** Luis Calzado (Spain)

India's First State-Level Sports Genomics Programme

- The Gujarat government has launched India's first state-level Sports Genomics Programme, bringing together sports and science. The initiative aims to integrate genomics into sports science, physiology and nutrition.
- Through DNA analysis of athletes, their natural abilities such as endurance, speed and muscle strength will be assessed. This will make it easier to identify suitable sporting talent at the grassroots level. Based on each athlete's genetic data, customised diet plans and training routines will be prepared, potentially making them more effective than conventional approaches.
- The technology will also help identify an athlete's susceptibility to certain types of injuries, such as muscle strains or fractures, enabling preventive measures to be taken in advance. This scientific approach could prove to be a major game-changer in developing athletes capable of winning medals for India in international competitions and the Olympic Games.

Uttar Pradesh Startup Policy 2026 and Mission Portal

- Uttar Pradesh Chief Minister Yogi Adityanath has officially launched the Uttar Pradesh Startup Policy 2026 and the UP Startup Mission Portal to promote entrepreneurship and innovation in the state.
- The primary objective of the policy is to establish Uttar Pradesh as a leading startup hub in the country. At present, the state has more than 24,000 startups and eight unicorns, which are expected to receive further support under the new policy.
- Key Financial Incentives:**
 - » Eligible startups will receive a sustenance allowance of Rs.20,000 per month for two years.
 - » A prototype grant of up to Rs.10 lakh has been provided for idea development.
 - » Long-term capital of up to Rs.100 crore will be available for large projects in high-tech sectors such as Artificial Intelligence (AI), robotics and drones.
 - » Startups will receive a rebate of up to Rs.2 lakh per year for the use of cloud services.
- Administrative Reforms (Ease of Doing Business):** To facilitate the smooth functioning of startups, the UP Startup Mission has been given greater autonomy, with its leadership entrusted to the Chief Secretary. In addition, infrastructure is being strengthened through IT parks and data centres.

India's First Quantum and AI University to Come Up in Amaravati

- Andhra Pradesh Chief Minister N. Chandrababu Naidu has approved the establishment of India's first dedicated Quantum and AI University campus in Amaravati. The project is being seen as an important step towards strengthening India's deep-tech ecosystem.
- Under 100% financial assistance from the Central Government through the Ministry of Electronics and Information Technology (MeitY), an investment of Rs.730.7 crore will be made over five years. For this purpose, 8.5 acres of land have been allocated in Amaravati. The university will be established by the National Institute of Electronics and Information Technology (NIELIT) under MeitY.
- The campus will offer UG, PG and PhD programmes in areas such as quantum computing, Artificial Intelligence (AI/ML), semiconductor technology, chip designing and high-performance computing. The target is to train 8,250 students over five years.
- A 1.25 lakh sq. ft. Quantum Research, Innovation and Incubation Block (QRIIB) will also be developed on the campus to promote startups and research. Classes will begin from September 2026 at the temporary campus of Acharya Nagarjuna University in Guntur.
- The initiative is expected to accelerate India's National Quantum Mission and IndiaAI Mission, while also helping Andhra Pradesh emerge as a global hub or "Quantum Valley" for future technologies.

12 Years of Pradhan Mantri Jan Dhan Yojana

- The Pradhan Mantri Jan Dhan Yojana (PMJDY) completed 12 successful years of promoting financial inclusion in the country on 28 August 2026. According to data released by the Ministry of Finance on this occasion, the total number of accounts opened under the scheme crossed 59.09 crore as of August 2026.
- Of the total accounts, 55.7% (around 32.92 crore) are held by women, reflecting progress towards gender-based financial inclusion. Around 77.8% of the accounts are active in rural

and semi-urban areas. The total deposits in these accounts have crossed Rs.3.16 lakh crore, while the average deposit per account has increased to Rs.5,356, which is 3.4 times higher than in 2015. So far, 41.29 crore RuPay debit cards have been issued to account holders.

- According to a recent RTI report, around 23–26% of the total accounts are currently inoperative, prompting the government to focus on their reactivation.
- The scheme continues to serve as the foundation of the JAM Trinity (Jan Dhan-Aadhaar-Mobile), which has enabled transparent and efficient Direct Benefit Transfers (DBT) to beneficiaries.

DRDO's Nyoma-Mudh Parachute Test

- Recently, the Defence Research and Development Organisation (DRDO) successfully conducted the first trial of its indigenously developed Military Combat Parachute System (MCPS) at the Nyoma-Mudh Drop Zone in Ladakh, setting a new milestone. The drop zone is among the highest drop zones in the world.
- During this landmark trial, paratroopers safely jumped from an altitude of 22,000 feet above sea level. The MCPS has been completely designed and developed in India by DRDO's Agra-based laboratory, the Aerial Delivery Research and Development Establishment (ADRDE), marking a significant step towards Aatmanirbhar Bharat.
- The trial was conducted under challenging conditions, including sub-zero temperatures and extremely low air pressure in Nyoma, demonstrating the system's high reliability.
- The Nyoma-Mudh Drop Zone is located very close to the Line of Actual Control (LAC). The successful trial will significantly strengthen the Indian Army's capability to rapidly air-drop troops in high-altitude areas. The system is expected to provide the Indian Armed Forces with a major strategic advantage in future special operations.

Work from Anywhere Index 2026

- Mumbai has created a new milestone by featuring for the first time in the "Work from Anywhere Index 2026" released by the International Workplace Group (IWG). Mumbai is the only Indian city to feature in the global ranking.
- In the fourth edition of the index, Mumbai secured a score of 77 and ranked 50th, placing it ahead of major cities such as London and Miami. Bangkok (Thailand) ranked first, followed by Tokyo (Japan) in second place and Barcelona (Spain) in third.
- The index evaluates cities around the world based on their suitability for digital nomads and remote professionals who adopt a "workcation" lifestyle, combining work with travel.
- Mumbai received high scores for its affordable transportation costs, availability of flexible co-working spaces and favourable climate. However, the city scored relatively lower in areas such as broadband speed, local cultural events and the happiness index.
- The ranking highlights the growing popularity of flexible workspaces in India, which is increasingly attracting global professionals and remote workers.

Operation Economic Outcast

- In August 2026, the US government launched a new and stringent global sanctions campaign against Iran called "Operation Economic Outcast." The initiative was announced by US Treasury Secretary Scott Bessent on the instructions of President Donald Trump, who described it as an "Economic D-Day" for Iran.

- The primary objective of the campaign is to completely isolate Iran's economic network from the global financial system and deprive it of its major sources of revenue. According to the United States, Iran uses these revenues to support its nuclear programme and regional proxy groups.
- Under this strategy, stringent sanctions have been imposed on five new areas of Iran's economy, including digital assets (crypto), technology, gold, aviation and shipping. The European Union (EU) has also joined the campaign alongside the United States.
- In addition, the US has issued a strong warning to countries worldwide that assisting Iran's shadow banking network could result in their exclusion from the US dollar-based financial system. The move is having significant implications for global geopolitics and oil markets.

NSG's First Women Commando Course

- The National Security Guard (NSG) has undertaken a historic initiative to induct women into counter-terrorism operations. The NSG has launched the country's first Women Commando Conversion Course (MCCC) at its training academy in Manesar, Haryana. The official motto of the course is "She Who Dares, Leads."
- The course is a highly rigorous 12-week residential training programme, being conducted from 24 August 2026 to 14 November 2026. The first batch includes women personnel from police forces of various states and the Central Armed Police Forces (CAPFs), including 25 women constables from the Rajasthan Armed Constabulary (RAC).
- Under the programme, the women trainees are receiving advanced combat training in areas such as the handling of modern weapons, marksmanship, hostage rescue and tactical intervention.
- The initiative not only promotes gender inclusion in the fields of defence and internal security but also empowers Nari Shakti (women power) to take leadership roles in some of the most challenging security operations. After completing the training, these commandos will return to their respective parent forces and serve as "force multipliers."

India's First Soil Texture Map

- The National Bureau of Soil Survey and Land Use Planning (NBSS&LUP) has released India's first Soil Texture Map, marking a major achievement in the fields of Indian agriculture and land management.
- The map provides digital information on soil texture at the hectare level, offering detailed physical insights into the soils found across the country. With the help of this data, farmers will be able to select suitable crops, fertilisers and nutrients based on the type of soil on their land, potentially reducing input costs and improving productivity.
- Understanding the water-retention capacity of soil can help improve irrigation management and reduce water wastage. The map will also help the government formulate more precise policies for preventing soil erosion, reclaiming degraded land and ensuring food security at the national level. This technological initiative is an important step towards making Indian agriculture more scientific, sustainable and productive.

Mirza Fakhrul Islam Alamgir Becomes Bangladesh's New President

- Recently, senior Bangladesh Nationalist Party (BNP) leader Mirza Fakhrul Islam Alamgir was

elected as the 23rd President of Bangladesh. He secured a decisive victory in the presidential election held in the Bangladesh Parliament (Jatiya Sangsad), receiving 255 out of a total of 343 votes. He defeated his rival, Colonel (Retd.) Oli Ahmed, who received 88 votes.

- For the first time in 35 years (since 1991), Bangladesh witnessed a direct contest between more than one candidate for the presidency. In previous decades, presidential elections had generally been held through consensus or without opposition.
- The 78-year-old Mirza Fakhrul Islam Alamgir officially took oath as President on 21 August 2026 at the Durbar Hall of Bangabhaban, the presidential residence in Dhaka.
- The election was held after former President Mohammed Shahabuddin resigned due to health reasons. At present, Tarique Rahman is the Prime Minister of Bangladesh, while Mirza Fakhrul Islam Alamgir has assumed office as the country's new constitutional head (President).

UN Medal

- A total of 210 Indian peacekeepers serving with the United Nations Mission in South Sudan (UNMISS) have been awarded the prestigious United Nations Medal for their outstanding service. The medal ceremony was held in Juba, the capital of South Sudan. The honoured contingent also included six women peacekeepers and seven staff officers, highlighting India's growing participation and women's leadership in UN peacekeeping operations.
- The United Nations highly appreciated the exemplary contribution of Indian peacekeepers, also known as Blue Helmets. Working under difficult and challenging conditions, these personnel not only strengthened security arrangements but also provided life-saving and medical assistance during crises, setting an example of humanitarian service.
- Currently, India is the second-largest contributor of military and police personnel to UN peacekeeping missions. More than 1,700 Indian personnel are deployed in the UNMISS mission in South Sudan, playing a key role in maintaining peace and stability in the country.
- The recognition once again reinforces India's commitment to global peacekeeping and strengthens international confidence in the professionalism and discipline of its armed forces.

Sarala Award 2026

- Renowned Odia poet, essayist and former scientist Dr. Ashutosh Parida has been announced as the recipient of the prestigious Sarala Award 2026, the 47th edition of the award. He is being honoured for his poetry collection "Bishwas De Pruthwi", published in 2024.
- The award carries a cash prize of Rs.7 lakh, along with a citation and a copper plaque. The award will be presented to him at a special ceremony in Bhubaneswar on 25 October 2026.
- The Sarala Award was instituted in 1980 by Odia industrialists Dr. Bansidhar Panda and Ila Panda. It is presented annually by IMPaCT (Indian Metals Public Charitable Trust) to recognise outstanding contributions to Odia literature.

National Sports Awards 2025

- The Ministry of Youth Affairs and Sports officially announced the winners of the National Sports Awards 2025 on 18 August 2026. The list of awardees was prepared based on the recommendations of a selection committee headed by former Supreme Court judge Justice (Retd.) Arun Kumar Mishra.
- A total of 17 sportspersons were selected for the Arjuna Award for their outstanding

performances in sports over the past four years. The prominent awardees include Tejaswin Shankar (Athletics), Vidit Gujrathi and Divya Deshmukh (Chess), and Treasa Jolly and Gayatri Gopi Chand (Badminton). In addition, I. Arumainayagam (Football) was selected for the Arjuna Award (Lifetime).

- In the regular category for outstanding coaches, Parveer Singh (Athletics), Chhote Lal Yadav (Boxing), and Neha Nandkumar Chavan (Shooting) were selected. In the Lifetime category, the award was given to Dharmendra Singh Yadav (Boxing) and Virendra Kumar (Wrestling).
- For the first time since 2014, no sportsperson has been selected for the country's highest sporting honour, the Major Dhyan Chand Khel Ratna Award.
- The Army Paralympic Node (APN), Pune, was awarded the Rashtriya Khel Protsahan Puraskar 2025 for its contribution to sports development.

8th India-US Naval EOD Exercise 2026

- The 8th edition of the India-US Naval Explosive Ordnance Disposal (EOD) Exercise concluded on 14 August 2026. The exercise was conducted in Kochi, India, under the Southern Naval Command.
- The primary objective of the exercise was to enhance interoperability and coordination between the Indian and US navies in explosive ordnance disposal and maritime rescue operations.
- During the exercise, Indian and US Navy personnel exchanged specialised knowledge on handling Improvised Explosive Devices (IEDs), mine neutralisation, and the use of unmanned underwater systems. Diving teams also received practical training in debris search, salvage operations and slithering.
- Bilateral naval cooperation between the two friendly countries in this field began in 2005. The exercise represents an important step towards strengthening maritime security and operational cooperation in the Indo-Pacific region.

Impatiens Nimspurjae

- Recently, a newly identified plant species from the Himalayan region has been named *Impatiens nimspurjae* in honour of renowned Nepalese mountaineer Nirmal "Nimsdai" Purja. The plant belongs to the Balsaminaceae family, commonly known as the balsam or "touch-me-not" family.
- Its specimens were first collected from Myagdi district of Nepal. Following detailed research and study, it was recognised as a new species. It is primarily found in the Himalayan region of western Nepal at an altitude of 2,800–2,900 metres. The plant grows on moist slopes and along the edges of temperate forests. It is an annual herb that can grow up to approximately one metre in height. Its flowers are attractive, featuring a combination of white, yellow and purple colours.
- Nirmal Purja holds the record for climbing all 14 eight-thousanders in the shortest time without supplementary oxygen. The Himalayan flower has been named after him to commemorate his remarkable contributions to mountaineering and the environment. The discovery is also significant from the perspective of biodiversity and environmental conservation.

High-Level Committee Constituted for Teesta Barrage Project

- The Government of India has constituted a 12-member high-level committee for the revival and

management of the Teesta Barrage Project (TBP), considering the growing strategic importance of the Teesta River in West Bengal.

- The committee is headed by the Chairman of the Central Water Commission (CWC) and includes senior officials from the Central Government as well as the states of West Bengal and Sikkim. The committee has been given six months to submit its report.
- The committee will assess the availability, existing utilisation and future demand for water in the Teesta River Basin. It will also undertake a scientific assessment of the condition of the barrage infrastructure, the problem of siltation in the river, and the impacts of climate change.
- The move is particularly significant because China and Bangladesh are working together on the Teesta River Comprehensive Management and Restoration Project (TRCMRP). The region is also located close to India's strategically important Siliguri Corridor, or "Chicken's Neck."
- Through this committee, India seeks to strengthen the management of its water resources and safeguard its security and strategic interests in the region.

Gallantry and Service Medals Awarded to Police and Other Service Personnel

- On the occasion of Independence Day 2026, a total of 1,057 personnel from the police, fire services, Home Guards, civil defence and correctional services were awarded gallantry and service medals. The honours recognise courage, dedication and exemplary service in the line of duty.
- A total of 301 Gallantry Medals, including 272 police personnel and 29 fire service personnel, were awarded for acts of exceptional bravery. Of these, 197 medals were awarded for courageous actions in Left-Wing Extremism-affected areas, 51 in Jammu and Kashmir, 12 in the Northeast, and 41 in other regions. Gallantry Medals are awarded for displaying exceptional courage in protecting life and property, preventing crime or apprehending criminals.
- A total of 92 President's Medals for Distinguished Service (PSM) were awarded to personnel with an outstanding record of service. These included 83 police personnel, 4 fire service personnel, 3 civil defence and Home Guard personnel, and 2 correctional service personnel.
- Meanwhile, 664 Medals for Meritorious Service (MSM) were awarded for valuable service rendered with dedication and resourcefulness. These included 606 police personnel, 28 fire service personnel, 18 civil defence and Home Guard personnel, and 12 correctional service personnel.
- The President's Medal for Distinguished Service is awarded to personnel with an outstanding record of service, while the Medal for Meritorious Service (MSM) recognises valuable service rendered with devotion to duty and professional competence.

Former President Ram Nath Kovind's Autobiography Released

- On 12 August 2026, Prime Minister Narendra Modi released the autobiography of former President Ram Nath Kovind, titled "Triumph of the Indian Republic: My Life, My Struggles," at Vigyan Bhawan in New Delhi. The book has been published by Rupa Publications.
- The autobiography chronicles Mr. Kovind's inspiring journey from Paraunkh, a small village in Uttar Pradesh, to the country's highest constitutional office—the Presidency. It provides a detailed account of his childhood struggles, his public service as a Rajya Sabha Member of Parliament and Governor of Bihar, and his experiences of dealing with major challenges during his presidential tenure, including the COVID-19 pandemic.

- At the book launch, Prime Minister Modi described the autobiography as a symbol of the strength of Indian democracy, demonstrating that a person from an ordinary background can rise to the highest constitutional office in the country.
- The book is expected to serve as an important source of inspiration for young people in the areas of nation-building and self-development.

Sangeet Natak Akademi Awards 2024–25

- On 13 August 2026, President of India Droupadi Murmu presented the prestigious Sangeet Natak Akademi Awards for the years 2024 and 2025 at Vigyan Bhawan in New Delhi. The awards are conferred by an autonomous organisation under the Ministry of Culture, Government of India, for outstanding contributions to the performing arts, including music, dance, theatre and folk arts.
 - » **Akademi Ratna (Fellowship):** This is the Akademi's highest honour and is limited to a maximum of 40 living fellows at a time. This year, seven eminent personalities were conferred the fellowship, including noted figures such as Ramlal Bareth (Kathak), Rita Ganguly and Sudharani Raghupathy. The fellowship carries a cash prize of Rs.3 lakh.
 - » **Akademi Awards:** A total of 108 artists were honoured with the main Akademi Award for the 2024 and 2025 award cycles. Each recipient received a cash prize of Rs.1 lakh and a copper plaque.
 - » **Ustad Bismillah Khan Yuva Puraskar:** A total of 106 emerging young artists were recognised for their contributions to the performing arts. The award carries a cash prize of Rs.25,000.
- These awards play an important role in promoting and preserving India's rich cultural heritage and traditional art forms.

India's Emphasis on Community-Led Rangeland Restoration

- At UNCCD COP17, held in Ulaanbaatar, Mongolia, India emphasised community-led and science-based restoration of rangelands. India highlighted the need to recognise pastoralists not merely as beneficiaries of government schemes, but as custodians of rangelands.
- Rangelands include grasslands, shrublands, savannas and open woodlands. They play a crucial role in the livelihoods of pastoral communities, biodiversity conservation, carbon storage, soil health and water regulation. In India, major examples include the Thar Desert, Kutch, Himalayan pastures and Central Indian savannas.
- India called for an integrated approach to rangeland restoration encompassing landscape management, watershed development, sustainable grazing, fodder development and livelihood support. It also emphasised linking traditional knowledge with modern science and safeguarding the land and grazing rights of local communities. The Orans (sacred groves) of Rajasthan are an example of such traditional community-based conservation systems.
- **UNCCD COP17:** COP17 was held from 17 to 28 August 2026. Its theme was "Restoring Land, Restoring Hope." The year 2026 has also been declared the International Year of Rangelands and Pastoralists.

Professor Deepak Dhar Receives Dirac Medal

- On 8 August 2026, the Abdus Salam International Centre for Theoretical Physics (ICTP), based in Trieste, Italy, announced the 2026 Dirac Medal. This year, the prestigious honour was

awarded to renowned Indian physicist Professor Deepak Dhar, jointly with French physicist Bernard Derrida.

- Professor Deepak Dhar received the award for his outstanding contributions to theoretical physics, particularly statistical physics. He has conducted pioneering research in areas such as stochastic processes and fractal dynamics.
- Earlier, in 2022, Professor Dhar became the first Indian to receive the Boltzmann Medal. His receipt of the Dirac Medal once again highlights India's contribution to the global field of theoretical physics. The Dirac Medal is one of the world's most prestigious honours in theoretical physics. It was instituted in memory of the renowned physicist Paul Dirac.

11 New International Entry Ports Notified Under e-Visa

- In August 2026, the Government of India notified 11 new international entry ports for foreign tourists under the e-Visa facility. Following this decision, the total number of authorised entry points through which travellers can enter India with a valid e-Visa has increased from 77 to 88.
- The primary objective of this move is to promote tourism in India and make access to the electronic visa system more convenient. The Ministry of Home Affairs (MHA) has added nine land ports and two airports as new entry points:
 - » **Airports:** Bhopal (Madhya Pradesh) and Tirupati (Andhra Pradesh).
 - » **Land Ports:** Attari (Punjab), Agartala (Tripura), Dawki (Meghalaya), Moreh (Manipur), Daranga (Assam), and four locations in West Bengal—Gede, Ghojadanga, Haridaspur and Jaigaon.
- Foreign nationals can now enter India through a total of 37 airports, 38 seaports and 13 land ports under the e-Visa facility. The facility is currently available to citizens of 172 countries and covers 17 sub-categories, including tourism, business and medical purposes.
- At present, around 95% of e-Visa applications are approved within less than 72 hours, while approximately 78% of foreign visitors to India use the e-Visa facility.

Change in Insurance Tenure for New Vehicles

- The Supreme Court has extended the mandatory Third-Party insurance period for new vehicles by one year to strengthen road safety in the country and reduce the number of uninsured vehicles. Following the court's decision, buyers of a new car will have to purchase four years of insurance coverage, while those purchasing a new two-wheeler will have to take six years of insurance coverage at the time of purchase.
- The Supreme Court expressed concern that despite stringent regulations, around 56% of vehicles on Indian roads are reportedly being driven without valid insurance. In the event of an accident, uninsured vehicles create significant difficulties for victims and their families in receiving timely and adequate compensation.
- The Court has also suggested measures such as implementing a "No Insurance, No Fuel" system at petrol pumps to curb the use of uninsured vehicles.

COSPAR Vikram Sarabhai Medal 2026

- Indian astrophysicist Annapurni Subramaniam has been honoured with the prestigious COSPAR Vikram Sarabhai Medal 2026 for her exceptional contributions to the field of space

research. She is the first Indian woman scientist and the fourth Indian overall to receive this honour. Before her, the medal was awarded to Prof. U. R. Rao, Dr. K. Kasturirangan, and Prof. A. P. Mitra. The announcement was made at the 46th COSPAR Scientific Assembly, held in Florence, Italy, in August.

- Professor Subramaniam is a former Director of the Indian Institute of Astrophysics (IIA). She received the award for her outstanding leadership and scientific research in the development of the Ultraviolet Imaging Telescope (UVIT) onboard AstroSat, India's first dedicated space astronomy mission. Her research has made a significant contribution globally to improving the understanding of star clusters and the structure of galaxies.

Republic of Naoero

- The Pacific island nation of Nauru, one of the world's smallest island countries, has officially changed its name to the Republic of Naoero.
- President David Adeang announced the historic decision, stating that the former name was a legacy of European colonial influence. The new name corresponds more closely to the correct spelling and actual pronunciation in the local Nauruan language. As part of this cultural change, several important technical and administrative changes have also been introduced:
 - » The country's three-letter international country code has been changed from 'NRU' to 'NRO'.
 - » The country's citizens will now be referred to as 'dei-Naoero' instead of 'Nauruan'.
- Global organisations, including the United Nations (UN), have recognised the change. The move is being seen as an important step towards strengthening the country's cultural sovereignty and identity on the global stage.

Glaw Lake Becomes India's 101st Ramsar Site

- Glaw Lake in Arunachal Pradesh was designated as India's 101st Ramsar Site on 3 August 2026. It is the first Ramsar Site in Arunachal Pradesh.
- The freshwater lake is located in Lohit district of Arunachal Pradesh, within the Kamlang Tiger Reserve and Wildlife Sanctuary. The region is exceptionally rich in biodiversity, with more than 150 species of trees and 49 species of orchids. The local Mishmi community considers the lake highly sacred.
- With this new designation, the total number of wetlands of international importance in India has risen to 101. In 2014, the country had only 26 Ramsar Sites.
- **Ramsar Convention:** The Ramsar Convention is an international treaty for the conservation of wetlands, signed in 1971 in the city of Ramsar, Iran. The designation of Glaw Lake as a Ramsar Site is expected to strengthen its global conservation efforts and promote eco-tourism in the region.

Kerala Renamed 'Keralam'

- Recently, Parliament approved the Kerala (Alteration of Name) Bill, 2026, under which the official name of the state has been changed from 'Kerala' to 'Keralam'. 'Keralam' is the traditional name of the state in the Malayalam language. The change became effective following the President's assent and subsequent notification by the Central Government.
- The Kerala Legislative Assembly had unanimously passed a resolution in June 2024 proposing to change the state's name to 'Keralam' and sent it to the Centre. The Union Cabinet approved

the proposal for the name change in February 2026, following which Parliament passed the Bill.

Constitutional Provisions:

- » Article 3 empowers Parliament to alter the name of a state.
- » The President's recommendation is required before such a Bill can be introduced in Parliament.
- » The President refers the Bill to the concerned State Legislature for its views. However, the state's opinion is not binding on Parliament.
- » The necessary amendment is made to the First Schedule of the Constitution to change the name of a state.
- The adoption of the name 'Keralam' gives constitutional recognition to the state's Malayalam linguistic and cultural identity. It also reflects the broader trend of changing the names of states in accordance with their local linguistic and historical identities.
- Thus, the change is not merely an administrative exercise but an important constitutional step associated with linguistic identity, cultural heritage, and federal sensitivity.

Indian Army's New 'Extreme Weather Grade' (XWG) Diesel

- The Indian Army has recently unveiled indigenously developed Extreme Weather Grade (XWG) diesel fuel. The initiative is expected to significantly strengthen the country's defence preparedness and the 'Aatmanirbhar Bharat' initiative.
- This specialised XWG diesel remains liquid even at extremely low temperatures of up to -42°C. It will help vehicles start easily in extremely cold and high-altitude regions such as Ladakh, Siachen, and Kargil. The fuel fully complies with BS-VI standards and the specifications of IS 1460:2025. The Army will not need to make any modifications to the engines of its existing vehicles to use this fuel.
- The fuel has been developed jointly by the Indian Army and public-sector oil marketing companies, such as IOCL and BPCL. It is expected to reduce engine idling time, thereby saving fuel and lowering carbon emissions.
- From a logistics perspective, this development is a game-changer for the Army. It will not only reduce dependence on foreign imports but also significantly enhance the Army's operational readiness during emergency operations in remote and difficult border areas.

Pradhan Mantri Surya Sarovar Yojana (PM-SSY)

- The Union Cabinet, chaired by Prime Minister Narendra Modi, has approved the Pradhan Mantri Surya Sarovar Yojana (PM-SSY). The scheme has been allocated a total budget of Rs.5,070 crore. The primary objective of the initiative is to establish 5,000 MW (5 GW) of floating solar photovoltaic (Floating Solar PV) projects across India, integrated with Energy Storage Systems (ESS).
- To ensure grid stability, these projects will be required to have battery storage systems with at least two hours of backup capacity, amounting to 10,000 MWh of energy storage. The projects will be approved between FY 2026–27 and FY 2030–31, while the disbursement of financial assistance will continue until FY 2032–33.
- The government will provide eligible projects with Central Financial Assistance of Rs.1 crore per MW. In addition, additional assistance of up to Rs.50 lakh per project will be provided.
- The scheme will help conserve land by installing floating solar panels on reservoirs and lakes. It will also reduce water evaporation, while the cooling effect of water is expected to improve

the electricity-generation efficiency of solar panels.

Alluri Sitarama Raju International Airport Inaugurated

- On 1 August 2026, Prime Minister Narendra Modi inaugurated the Alluri Sitarama Raju International Airport (ASR International Airport) at Bhogapuram in Vizianagaram district of Andhra Pradesh. It is the state's first greenfield international airport since the bifurcation of Andhra Pradesh in 2014.
- The state-of-the-art airport has been developed by the GMR Group under the Public-Private Partnership (PPP) model, at a cost of more than Rs.5,640 crore. In its first phase, the airport has an annual capacity to handle 60 lakh (6 million) passengers, which can be expanded to 4 crore passengers in the future.
- The airport is equipped with modern technologies such as AI-based systems, biometric processing, and smart sensors. Its terminal design is inspired by Andhra Pradesh's 'Chuttillu Cottages' and the Araku Valley. Commercial flight operations from the airport commenced on 17 August 2026.

New Real-Time National Organ Transplant Portal

- Recently, the National Organ and Tissue Transplant Organisation (NOTTO) launched a real-time national portal and mobile application to make the organ transplantation system more transparent, efficient, and equitable.
- The portal will create an integrated national waiting list for patients across the country awaiting organ transplants. It will enable real-time monitoring of organ allocation and their status. For critically ill patients, the facility to register 'super urgent' requests will be available. It will also facilitate swap donor matching across the country. Health outcomes of patients after transplantation will be recorded at the national level. The facility for Aadhaar-linked organ donation pledges will enable donors' consent to be digitally recorded.
- By bringing data scattered across different hospitals and states onto a common digital platform, this initiative can enhance transparency, accountability, and timeliness in organ allocation. It will help ensure better utilisation of available organs and facilitate timely transplantation for patients. In 2025, India recorded 20,138 organ transplants, nearly four times the 4,990 transplants recorded in 2013. Despite this progress, a significant gap continues to exist between the demand for and availability of organs.
- The real-time digital system is therefore an important step not only towards technological improvement but also towards strengthening fair organ allocation, better coordination, and public trust in the transplantation system.

Gujarat's 'Pithora Painting' Receives GI Tag

- The centuries-old traditional Pithora Painting, a form of wall painting practised by Gujarat's Rathwa tribe, has been granted the Geographical Indication (GI) Tag. This is an important achievement towards preserving India's rich tribal heritage and traditional art forms.
- Pithora painting is primarily practised by the Rathwa tribe in Gujarat's Chhota Udepur and Panchmahal districts. Members of the Bhil and Bhilala communities also practise this art form.
- Pithora is not merely a decorative art but a sacred ritualistic painting. It is traditionally created

on the main walls of houses to please the tribal deity 'Baba Pithora' and to bring prosperity and well-being to the household. The horse is considered the central motif of these paintings. They also depict the Sun, Moon, nature, animals, and the daily life of tribal communities in vibrant colours. Traditional artists who create these paintings are known as 'Lakharas'.

- The GI Tag will provide this ancient art form with a distinctive identity at the global level. It will help prevent counterfeit products, protect the authenticity of the art, and provide local tribal artists with better employment opportunities and economic benefits.

Nationwide Survey on Manual Scavenging

- The Central Government informed the Rajya Sabha that the latest nationwide survey conducted under the Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013 found no manual scavengers in the country. However, under the NAMASTE Scheme, 89,915 sewer and septic tank workers (SSWs) have been verified.
- Manual scavenging involves manually cleaning, carrying, or handling human excreta from dry latrines, sewers, septic tanks, and similar facilities. It is contrary to the spirit of Article 17 (Abolition of Untouchability) and Article 21 (Right to Life with Dignity) of the Constitution. The 2013 Act prohibits manual scavenging as well as hazardous cleaning of sewers and septic tanks.

NAMASTE Scheme

- NAMASTE (National Action for Mechanised Sanitation Ecosystem) aims to ensure the mechanisation of sanitation work, occupational safety, skill development, social security, and livelihood support for sanitation workers.
- Under the scheme, workers are being provided with PPE kits, safety training, equipment for Emergency Response Sanitation Units (ERSUs), and mechanised cleaning equipment.
- The survey is a positive indication, but sewer-related accidents and challenges in ground-level implementation show that legal prohibition alone is not sufficient. Universal mechanisation, effective rehabilitation, technological innovation, and elimination of social discrimination are essential for achieving the genuine eradication of manual scavenging.

Commonwealth Games 2026

- The 23rd edition of the Commonwealth Games 2026 was held from 23 July to 2 August 2026 in Glasgow, Scotland. The official mascot for the event was Finni the Unicorn. Due to budget constraints, the Games featured only 10 core sports and 6 para-sports. As a result, sports such as hockey, badminton, wrestling, shooting, and cricket were not included in this edition.
- Despite the limited number of sporting disciplines, Indian athletes delivered an impressive performance, finishing fourth in the medal table with 39 medals — 13 gold, 17 silver, and 9 bronze. Australia, England, and Canada finished first, second, and third, respectively.
- During the opening ceremony, star weightlifter Mirabai Chanu was the flag-bearer of the Indian contingent. Boxing emerged as India's most successful sport, with Indian boxers producing a historic performance by winning 10 medals, including 7 gold and 3 silver. Mirabai Chanu created history in weightlifting by winning her third consecutive Commonwealth gold medal, completing a hat-trick. In addition, Asmita Dey won a historic medal in judo.
- At the conclusion of the Games, the Commonwealth Games flag was officially handed over to India. The 2030 Commonwealth Games, which will mark the centenary edition, will be held in Ahmedabad, Gujarat.

MCQs Based on Current Affairs

1. Consider the following statements regarding the Environmental Performance Index (EPI):

1. It is released on an annual basis by the United Nations Environment Programme (UNEP) in collaboration with the World Bank.
 2. The 2026 edition evaluates countries using 47 indicators grouped into 12 issue categories under three broad policy objectives.
 3. Estonia topped the EPI 2026 rankings, while Laos was ranked at the bottom.
- Which of the statements given above are correct?

A: 1 and 2 only
B: 2 only
C: 2 and 3 only
D: 1, 2, and 3

2. With reference to the Environmental Performance Index (EPI) 2026, consider the following statements about India:

1. India secured the 176th rank out of 177 countries evaluated.
 2. India's overall score was higher than the South Asian regional average.
 3. The report noted critical concerns regarding tree cover loss in key biodiversity areas [0.3].
- Which of the statements given above are correct?

A: 1 and 2 only
B: 2 only
C: 1 and 3 only
D: 1, 2, and 3

3. With reference to the Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) Scheme, consider the following statements:

1. PM-KISAN is a Central Sector Scheme fully funded by the Government of India.
2. Eligible farmer families receive Rs.6,000 annually in three equal installments through the Aadhaar-enabled Direct Benefit Transfer (DBT) mechanism.
3. The scheme is implemented by the Ministry of Rural Development.
4. The Union Cabinet has approved the continuation of the scheme from 2026–27 to 2030–31 with a financial outlay of Rs.3.15

lakh crore.

Which of the statements given above are correct?

A: 1 and 2 only
B: 1,3 and 4 only
C: 1, 2 and 4 only
D: 1, 2, 3 and 4

4. With reference to the recent migration crisis in Ceuta, consider the following statements:

1. Ceuta and Melilla are Spanish autonomous cities located on the northern coast of Africa.
2. They constitute the European Union's only land borders with Africa.
3. The sudden migrant surge was attributed solely to a ruling of the Spanish Supreme Court that legally permitted all migrants arriving by sea to remain in Spain.
4. Spain coordinated with Morocco to strengthen border controls and facilitate the return of migrants.

Which of the statements given above are correct?

A: 1 and 2 only
B: 1,2 and 4 only
C: 1, 2 and 3 only
D: 1, 2, 3 and 4

5. With reference to the Registration of Births and Deaths (Amendment) Bill, 2026, consider the following statements:

1. The Bill amends Section 13(3) of the Registration of Births and Deaths Act, 1969.
2. Registration of a birth or death delayed by more than two years will require an order from a First-Class Judicial Magistrate.
3. Registration delayed between one and two years will continue to be approved by the District Magistrate (DM), Sub-Divisional Magistrate (SDM), or Executive Magistrate.
4. The Bill abolishes the Civil Registration System (CRS) and replaces it with a judicial registration mechanism.

Which of the statements given above are correct?

A: 1 and 2 only
B: 1,3 and 4 only
C: 1, 2 and 3 only
D: 1, 2, 3 and 4

6. Consider the following statements regarding the Registration of Births and Deaths Act, 1969 and its recent amendments:

1. The Act establishes the Civil Registration System (CRS) as the statutory framework for compulsory registration of births and deaths in India.
2. The 2023 amendment enabled birth certificates to function as a single document for updating records such as Aadhaar, passports, electoral rolls, educational records, and driving licences.
3. One of the objectives of the 2026 Amendment Bill is to improve the accuracy of demographic and vital statistics while preventing identity-related fraud.
4. The Amendment Bill mandates judicial approval for all delayed registrations, irrespective of the duration of delay.

Which of the statements given above are correct?

- A: 1 and 2 only
 B: 1, 3 and 4 only
 C: 1, 2 and 3 only
 D: 1, 2, 3 and 4

7. Consider the following statements regarding the legal and constitutional framework against manual scavenging in India:

1. Article 17 of the Constitution of India abolishes untouchability, while Article 21 guarantees the right to life with dignity, both of which are violated by manual scavenging.
2. The Prohibition of Employment as Manual Scavengers and their Rehabilitation Act of 2013 expanded the prohibition to include the hazardous cleaning of sewers and septic tanks.
3. The Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act was enacted in the year 2003.

Which of the statements given above are correct?

- A: 1 and 2 only
 B: 1 and 3 only
 C: 2 and 3 only
 D: 1, 2, and 3

8. Consider the following statements regarding the newly developed Indigenous African Swine Fever (ASF) Vaccine in India:

1. It is a live-attenuated vaccine developed

using the MA-104 cell line.

2. The African Swine Fever Virus (ASFV) is a zoonotic pathogen that can cause severe hemorrhagic fever in humans who consume infected pork.
3. It was developed by the ICAR-National Institute of High Security Animal Diseases (ICAR-NIHSAD).

Which of the statements given above are correct?

- A: 1 and 2 only
 B: 1 and 3 only
 C: 2 and 3 only
 D: 1, 2, and 3

9. With reference to African Swine Fever (ASF), consider the following statements:

1. It is a contagious viral disease affecting only domestic cattle and sheep.
2. The causative agent is a double-stranded DNA virus belonging to the Asfarviridae family.
3. India first reported its official outbreaks of African Swine Fever in the year 2020.

Which of the statements given above is/are correct?

- A: 1 and 2 only
 B: 1 and 3 only
 C: 2 and 3 only
 D: 1, 2, and 3

10. Consider the following statements regarding the new National Organ Transplant Portal:

1. The portal provides a facility for an Aadhaar-linked Organ Pledge and tracks post-transplant health status.
2. Organ transplantation in India is legally governed by the Transplantation of Human Organs and Tissues Act (THOTA) of 1994.
3. The digital portal was developed by the NOTTO.

Which of the statements given above are correct?

- A: 1 and 2 only
 B: 2 only
 C: 2 and 3 only
 D: 1, 2, and 3

11. Consider the following statements regarding the recent Supreme Court ruling on Section 498A of the Indian Penal Code (IPC) / Section 85 of the Bharatiya Nyaya Sanhita (BNS):

1. The protection against domestic cruelty is

now automatically applicable to all kinds of live-in relationships in India.

2. The Court observed that denying anti-cruelty protection to a woman in a marriage-like live-in relationship solely due to the absence of a formal marriage amounts to discrimination under Article 14 of the Constitution.
3. The Court mandated the strict implementation of guidelines laid down in the Arnesh Kumar v. State of Bihar case to prevent arbitrary arrests.

Which of the statements given above is/are correct?

- A: 1 and 2 only
 B: 2 only
 C: 2 and 3 only
 D: 1, 2, and 3

12. Consider the following statements regarding the Liquidity Adjustment Facility (LAF):

1. It was introduced based on the recommendations of the Narasimham Committee II.
2. The Standing Deposit Facility (SDF) is a collateral-free tool that acts as the lower bound of the LAF corridor.
3. The Reverse Repo Rate injects short-term liquidity into the banking system against government securities.

Which of the statements given above is/are correct?

- A: 1 and 2 only
 B: 2 only
 C: 2 and 3 only
 D: 1, 2, and 3

13. With reference to the Monetary Policy Committee (MPC) of India, consider the following statements:

1. It is a statutory body established under the Reserve Bank of India Act, 1934.
2. The committee consists of eight members, with the Union Finance Minister acting as the Chairperson.
3. In the event of a tie during voting, the RBI Governor holds a casting vote.

Which of the statements given above is/are correct?

- A: 1 and 2 only
 B: 1 and 3 only
 C: 2 and 3 only

D: 1, 2, and 3

14. With reference to the Reserve Bank of India's decision to restart licensing of Urban Cooperative Banks (UCBs), consider the following statements:

1. Urban Cooperative Banks operate on the principle of "one member, one vote", irrespective of shareholding.
2. UCBs operating across multiple states are registered under the Multi-State Cooperative Societies Act, 2002.
3. After the 2020 amendments to the Banking Regulation Act, the RBI was empowered to implement the Prompt Corrective Action (PCA) framework for UCBs and strengthen governance oversight.

Which of the statements given above is/are correct?

- A: 1 and 2 only
 B: 1 and 3 only
 C: 2 and 3 only
 D: 1, 2, and 3

15. Consider the following statements about the Clouded Leopard (*Neofelis nebulosa*):

1. It is the State animal of Meghalaya.
2. It has the shortest upper canine teeth relative to skull size among living cats.
3. It is listed as Vulnerable on the IUCN Red List.

Which of the statements given above is/are correct?

- A: 1 and 2 only
 B: 1 and 3 only
 C: 2 and 3 only
 D: 1, 2, and 3

16. With reference to the Zero Merchant Discount Rate (Zero-MDR) framework under The Taxation and Other Laws (Amendment) Bill, 2026, consider the following statements:

1. The Bill directly abolishes the Zero-MDR framework for all UPI transactions to aid payment service providers.
2. It delinks the Payment and Settlement Systems Act, 2007 from the Income-tax Act to enable the Government to modify the policy in the future.

Which of the statements given above is/are correct?

- A: 1 only
 B: 2 only
 C: Both 1 and 2
 D: None

17. Consider the following statements regarding the restructured GOBARdhan (National Circular Bio-energy Scheme):

1. It is implemented by the Ministry of New and Renewable Energy.
 2. Under this, a mandatory Compressed Bio-Gas obligation has been introduced for City Gas Distribution entities, starting at 3 percent in the financial year 2026-27.
 3. Under this scheme, capital assistance of up to Rs.2 crore per tonne of installed capacity per day is provided for new projects.
- Which of the statements given above are correct?

- A: 1 and 2 only
 B: 1 and 3 only
 C: 2 and 3 only
 D: 1, 2, and 3

18. With reference to the Agni-IV missile, consider the following statements:

1. It is a two-stage, solid-fuel-powered surface-to-surface ballistic missile.
 2. It has a strike range capability between 3,500 km and 4,000 km.
 3. It is exclusively dependent on liquid propellants for its terminal stage propulsion.
- Which of the statements given above is/are correct?

- A: 1 and 2 only
 B: 2 only
 C: 2 and 3 only
 D: 1, 2, and 3

19. Consider the following characteristics regarding the Agni-IV Intermediate-Range Ballistic Missile (IRBM):

1. It is designed and developed by the Defence Research and Development Organisation (DRDO).
2. It features a Ring Laser Gyroscope-based Inertial Navigation System (RINS) for high target accuracy.
3. It is incapable of being deployed via road-mobile or canister-compatible launch platforms.

Which of the statements given above is/are correct?

- A: 1 and 2 only
 B: 2 only
 C: 2 and 3 only
 D: 1, 2, and 3

20. Consider the following statements regarding India's non-fossil fuel energy status as of 2026:

1. Non-fossil fuel sources account for more than 50% of India's total installed electricity generation capacity.
2. Solar energy constitutes the largest share, contributing to more than half of the total non-fossil capacity.
3. Nuclear energy is excluded from the calculation of non-fossil fuel capacity by the Ministry of New and Renewable Energy.

Which of the statements given above are correct?

- A: 1 and 2 only
 B: 2 only
 C: 2 and 3 only
 D: 1, 2, and 3

21. With reference to India's climate commitments and international targets, consider the following statements:

1. The target of achieving 500 GW of non-fossil energy capacity by 2030 is part of the 'Panchamrit' commitments announced at COP26.
2. India has committed under the Paris Agreement to achieve about 50% cumulative electric power installed capacity from non-fossil resources by 2030.
3. India achieved its Paris Agreement goal of 40% non-fossil capacity well ahead of the target deadline.

Which of the statements given above are correct?

- A: 1 and 2 only
 B: 1 and 3 only
 C: 2 and 3 only
 D: 1, 2, and 3

22. Consider the following statements regarding the state song 'Tamil Thai Vazhthu':

1. It is an invocation to Mother Tamil derived from the 1891 Tamil literary work Manonmaniam by Manonmaniam Sundaranar.
2. It was given the official status of the State

Song of Tamil Nadu in the year 2021.

3. Like the National Anthem (Jana Gana Mana), a State Song derives explicit and equal mandatory status directly from the text of the Constitution of India.

Which of the statements given above is/are correct?

- A: 1 and 2 only
 B: 1 and 3 only
 C: 2 and 3 only
 D: 1, 2, and 3

23. Consider the following statements regarding the Access and Benefit Sharing (ABS) mechanism in India:

1. The ABS framework in India derives its legal backing from the Biological Diversity Act, 2002.
2. India's ABS mechanism is aligned with the Cartagena Protocol on Biosafety.
3. The National Biodiversity Authority (NBA) disburses funds collected under ABS to State Biodiversity Boards and local Biodiversity Management Committees.

Which of the statements given above is/are correct?

- A: 1 and 2 only
 B: 2 only
 C: 1 and 3 only
 D: 1, 2, and 3

24. Consider the following statements regarding the National Tribunals Commission (NTC) proposed under the Tribunals Reforms Bill, 2026:

1. It is designed as a five-member body consisting of a Chairperson, two judicial members, and two technical members.
2. The Chairperson of the NTC must be a serving or former Chief Justice of India.
3. The Bill mandates a uniform tenure of five years or up to 70 years of age, whichever is earlier, for tribunal members.

Which of the statements given above are correct?

- A: 1 and 2 only
 B: 1 and 3 only
 C: 2 and 3 only
 D: 1, 2, and 3

25. With reference to the constitutional and legal evolution of tribunals in India, consider the

following statements:

1. Tribunals were part of the original text of the Indian Constitution adopted in 1950.
2. In the *L. Chandra Kumar v. Union of India* (1997) case, the Supreme Court ruled that tribunals can completely replace the jurisdiction of High Courts in specialised matters.
3. The Supreme Court in various judgments, including *Roger Mathew* (2019), emphasized that executive dominance in tribunal appointments violates the principle of separation of powers.

Which of the statements given above is/are correct?

- A: 1 and 2 only
 B: 3 only
 C: 2 and 3 only
 D: 1, 2, and 3

26. Consider the following statements regarding the formation and regional nomenclature of tropical cyclones:

1. A mature tropical cyclone in the western North Pacific Ocean is classified as a typhoon if its maximum sustained wind speed reaches a minimum of 74 miles per hour.
2. The initial rotational motion of a typhoon is triggered by the Coriolis force, which prevents these storm systems from forming inside a 5° belt around the Equator.
3. High vertical wind shear acts as a fundamental catalyst that accelerates the vertical development and intensification of a mature typhoon.

Which of the statements given above are correct?

- A: 1 and 2 only
 B: 1 and 3 only
 C: 2 and 3 only
 D: 1, 2, and 3

27. Consider the following statements regarding India-US space cooperation and lunar initiatives:

1. India joined the Artemis Accords as a signatory in 2023.
2. The NISAR mission is a joint Earth-observation radar project between NASA and ISRO.
3. The Artemis programme aims to establish

a permanent human presence on Mars by 2030.

Which of the statements given above are correct?

- A: 1 and 2 only
- B: 1 and 3 only
- C: 2 and 3 only
- D: 1, 2, and 3

28. Consider the following statements regarding the MSME Development (Amendment) Bill, 2026:

1. Registration on the national digital platform for MSMEs is made mandatory for all manufacturing units.
2. All Central Public Sector Enterprises (CPSEs) must settle MSME invoices through the Trade Receivables Discounting System (TReDS).
3. Mediated settlements and arbitral awards can be recovered as arrears of land revenue.

Which of the statements given above are correct?

- A: 1 and 2 only
- B: 2 only
- C: 2 and 3 only
- D: 1, 2, and 3

29. Consider the following statements regarding the role of Micro, Small, and Medium Enterprises (MSMEs) in the Indian economy:

1. According to the Economic Survey 2025-26, MSMEs account for nearly half of India's total exports.
2. The sector's contribution to the country's Gross Domestic Product (GDP) is higher than its share in total manufacturing output.
3. Registered MSMEs on the formal Udyam platform account for the largest share of employment in India, outperforming agriculture.

Which of the statements given above is/are correct?

- A: 1 only
- B: 1 and 3 only
- C: 2 and 3 only
- D: 1, 2, and 3

30. Consider the following statements regarding India's BRICS Chairship 2026:

1. India assumed the BRICS Presidency for the fourth time in 2026.
2. The theme for India's chairship is "Building

for Resilience, Innovation, Cooperation and Sustainability".

3. Indonesia joined BRICS as a full member in 2025, expanding the total membership.

Which of the statements given above are correct?

- A: 1 and 2 only
- B: 1 and 3 only
- C: 2 and 3 only
- D: 1, 2, and 3

31. Consider the following statements regarding the power of Parliament to alter the name of a state under Article 3 of the Indian Constitution:

1. A Bill for altering the name of a state can be introduced in either House of Parliament only on the recommendation of the President.
2. Before recommending the Bill, the President must obtain the affirmative (binding) consent of the concerned state legislature.
3. The constitutional amendment required for renaming a state must be passed by a special majority in both Houses of Parliament.

Which of the statements given above is/are correct?

- A: 1 only
- B: 1 and 3 only
- C: 2 and 3 only
- D: 1, 2, and 3

32. Consider the following statements regarding the Supreme Court's 2026 ruling on Section 187 of the Bharatiya Nagarik Suraksha Sanhita (BNSS), 2023:

1. The BNSS has fundamentally expanded the maximum aggregate limit of police custody to 60 days for serious offences.
2. Under the BNSS, police custody can be requested in broken spells or distinct parts across the first 40 or 60 days of the total detention period.
3. The ruling departs from the erstwhile judicial position under the Code of Criminal Procedure (CrPC), 1973, where police custody was strictly confined to the initial 15 days of remand.

Which of the statements given above are correct?

- A: 1 and 2 only
- B: 1 and 3 only
- C: 2 and 3 only
- D: 1, 2, and 3

33. Consider the following statements regarding the recently passed Mines and Minerals (Development and Regulation) Amendment Bill, 2026:

1. It introduces a new Section 9D into the MMDR Act, 1957, which strictly bars State Governments from imposing new taxes, cesses, or levies on mineral rights and mineral-bearing lands.
2. The Bill explicitly mandates that all previously collected state taxes or levies on mineral rights must be fully refunded by the respective State Governments.
3. It expands the Union Government's regulatory purview to actively identify and control "mineral-bearing lands" based on parameters it prescribes.

How many of the statements given above are correct?

- A: Only one
 B: Only two
 C: All three
 D: None

34. Consider the following statements regarding the recently discovered cascade frogs:

1. Cascade frogs belong to the genus Amolops and are typically adapted to fast-flowing forest streams and rocky waterfalls.
2. Ammachi's Cascade Frog (Amolops ammachi) was discovered in the Jampui Hills and named in honor of a social worker from Kerala.

Which of the statements given above is/are correct?

- A: 1 only
 B: 2 only
 C: Both 1 and 2
 D: None

35. Consider the following statements regarding the "creamy layer" principle in India's reservation framework:

1. The concept of the creamy layer was first formally introduced and applied to Other Backward Classes (OBCs) by the Supreme Court in the landmark Indra Sawhney case (1992).
2. The power to include or exclude any community from the SC and ST lists rests with Parliament under Articles 341 and 342

of the Constitution.

Which of the statements given above is/are correct?

- A: 1 only
 B: 2 only
 C: Both 1 and 2
 D: None

36. With reference to the National Song (Vande Mataram) and the related Prevention of Insults to National Honour Act, consider the following statements:

1. On January 24, 1950, the Constituent Assembly adopted the entire text of Bankim Chandra Chattopadhyay's poem Vande Mataram as the National Song of India.
2. The Prevention of Insults to National Honour Act, 1971 initially protected only the National Flag and the National Anthem, but subsequent structural updates extended statutory legal protections to the National Song.
3. Unlike the National Anthem, there is no explicit fundamental duty under Article 51A of the Indian Constitution that mentions the National Song.

Which of the statements given above are correct?

- A: 1 and 2 only
 B: 2 only
 C: 2 and 3 only
 D: 1, 2, and 3

37. Consider the following statements regarding the Next Generation Offshore Patrol Vessel (NGOPV) 'Shruti':

1. It has been built and launched by Garden Reach Shipbuilders & Engineers (GRSE), Kolkata.
2. The name 'Shruti' is derived from India's ancient civilisational heritage and refers to the four Vedas.
3. The construction of the NGOPV fleet is exclusively assigned to public sector shipyards on the eastern coast of India.

Which of the statements given above are correct?

- A: 1 and 2 only
 B: 2 only
 C: 2 and 3 only
 D: 1, 2, and 3

38. With reference to the Food Safety and Standards

(FSS) Act, 2006, and the recent prohibition of tobacco-containing products by state regulators like the Maharashtra Food and Drug Administration (FDA), consider the following statements:

1. The Food Safety and Standards Act, 2006 explicitly empowers the State Commissioner of Food Safety to prohibit the manufacture, storage, distribution, or sale of any article of food in the interest of public health.
 2. Any such prohibition order issued by the State Commissioner of Food Safety under the FSS Act can be made permanent at the time of its initial notification.
 3. Central regulations completely exempt standard food additives like silver foil (chandi-wark) or cardamom (elaichi) from being scrutinized if they use the branding of a pan masala company.
- Which of the statements given above is/are correct?

- A: 1 only
 B: 1 and 3 only
 C: 2 and 3 only
 D: 1, 2, and 3

39. Regarding "Surrogate Advertising" and the legal framework governing celebrity endorsements in India, consider the following statements:

1. As per the Central Consumer Protection Authority (CCPA) guidelines, surrogate advertising refers to promoting a prohibited product or service by presenting it as an advertisement for a permitted product or service.
2. Under current consumer protection norms, brand endorsers (including celebrities) can be held legally accountable and are required to exercise due diligence regarding the claims made in advertisements they feature in.
3. The power to issue notices or take action against surrogate advertisements of food items rests exclusively with the Union Ministry of Information and Broadcasting, completely excluding State Food and Drug Administrations (FDAs).

Which of the statements given above are correct?

- A: 1 and 2 only
 B: 2 only
 C: 2 and 3 only
 D: 1, 2, and 3

40. Consider the following statements regarding Makhana (Euryale ferox):

1. It is an aquatic crop grown primarily in deep marine trenches and fast-flowing rivers.
2. India is the world's largest producer of makhana, with Bihar contributing the majority share of global production.
3. The National Makhana Board was established to strengthen the entire makhana value chain.

Which of the statements given above are correct?

- A: 1 and 2 only
 B: 1 and 3 only
 C: 2 and 3 only
 D: 1, 2, and 3

41. The monitoring and reporting of the H1N1 influenza surge in Delhi is spearheaded by the National Centre for Disease Control (NCDC). Consider the following statements regarding the NCDC and disease classification:

1. The NCDC functions as the nodal agency under the Ministry of Science and Technology.
 2. An epidemic refers to a sudden increase in disease cases above normal expectations in a specific geographical population.
 3. According to the Union Health Ministry's clinical categorization guidelines for H1N1, Category A patients (mild fever and cough) require immediate hospital isolation and mandatory Oseltamivir prescription.
- Which of the statements given above is/are correct?

- A: 1 and 2 only
 B: 2 only
 C: 2 and 3 only
 D: 1, 2, and 3

42. Consider the following statements regarding the Kuril Islands:

1. They form a volcanic island chain that separates the Sea of Japan from the North Pacific Ocean.
2. The archipelago contains the Kuril-Kamchatka Trench, which is a major active subduction zone.
3. The four disputed islands, collectively called the "Northern Territories" by Japan, are located at the northernmost end of the chain near the Kamchatka Peninsula.

Which of the statements given above is/are correct?

- A: 1 and 2 only
- B: 2 only
- C: 2 and 3 only
- D: 1, 2, and 3

43. With reference to the major maritime passages associated with the Kuril Islands region, which of the following straits facilitate water exchange between the Sea of Okhotsk and the North Pacific Ocean?

- 1. Bussol' Strait
- 2. Tsushima Strait
- 3. Kruzenshtern Strait
- 4. Vries Strait

Select the correct answer using the code given below:

- A: 1 and 2 only
- B: 1,3 and 4 only
- C: 1, 2 and 3 only
- D: 1, 2, 3 and 4

44. Consider the following statements with reference to the National Testing Agency (NTA) and recent institutional reform measures:

- 1. The NTA is a statutory body established by a specific Act of Parliament to conduct high-stakes national entrance examinations.
- 2. The K. Radhakrishnan Committee was constituted to examine structural vulnerabilities, data security, and systemic improvements within the NTA.
- 3. The high-powered task force led by Nandan Nilekani was formed to integrate advanced technology, secure digital infrastructure, and tamper-proof logistics into public examinations.

Which of the statements given above are correct?

- A: 1 and 2 only
- B: 2 only
- C: 2 and 3 only
- D: 1, 2, and 3

45. Consider the following statements regarding the legal and constitutional aspects of polygamy in India:

- 1. Section 82 of the Bharatiya Nyaya Sanhita (BNS) provides for the punishment of bigamy, subject to certain statutory exceptions.
- 2. In the Sarla Mudgal v. Union of India (1995)

case, the Supreme Court of India directly declared polygamy under Muslim Personal Law to be unconstitutional.

- 3. According to data from the National Family Health Survey-5 (NFHS-5), the prevalence of multiple marriages is exclusive to Muslim communities and is nonexistent among other religious groups in India.

Which of the statements given above is/are correct?

- A: 1 only
- B: 1 and 3 only
- C: 2 and 3 only
- D: 1, 2, and 3

46. With reference to the constitutional provisions and judicial discourse concerning personal laws and equality in India, consider the following statements:

- 1. Article 44 of the Constitution of India envisages a Uniform Civil Code (UCC) for the citizens throughout the territory of India.
- 2. The fundamental right to freedom of religion under Article 25 is absolute.
- 3. Marriage and divorce fall under the Concurrent List (Entry 5) of the Seventh Schedule to the Constitution of India.

Which of the statements given above is/are correct?

- A: 1 and 2 only
- B: 1 and 3 only
- C: 2 and 3 only
- D: 1, 2, and 3

47. Consider the following statements regarding the Rights of Persons with Disabilities (RPwD) Act, 2016:

- 1. It replaced the Persons with Disabilities Act, 1995, and expanded the recognized categories of disabilities from 7 to 21.
- 2. It provides for a 5% reservation in government employment for persons with benchmark disabilities.
- 3. The Act aligns with India's obligations under the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD).

Which of the statements given above is/are correct?

- A: 1 and 2 only
- B: 1 and 3 only
- C: 2 and 3 only
- D: 1, 2, and 3

48. Consider the following statements regarding the method of execution of death sentence in India:

1. The Supreme Court of India recently ruled that hanging by rope is unconstitutional and must be replaced immediately with lethal injection.
2. Under the Code of Criminal Procedure (CrPC) / Bharatiya Nagarik Suraksha Sanhita (BNSS), a person sentenced to death is hanged by the neck till they are dead.

Which of the statements given above is/are correct?

- A: 1 only
 B: 2 only
 C: Both 1 and 2
 D: None

49. Consider the following statements regarding the Zonal Councils in India:

1. The Zonal Councils are constitutional bodies established under Article 263 of the Constitution of India.
2. The Union Home Minister is the common Chairman of all five Zonal Councils.
3. The recommendations and deliberations of the Zonal Councils are legally binding on the member States and the Centre.

Which of the statements given above is/are correct?

- A: 1 and 2 only
 B: 2 only
 C: 2 and 3 only
 D: 1, 2, and 3

50. Consider the following statements regarding the recent amendments to the Citizenship Rules concerning the Citizenship Amendment Act (CAA), 2019:

1. District Collectors have now been authorized to receive, scrutinize, and dispose of applications for registration or naturalization under Section 6B of the Citizenship Act, 1955.
2. This decentralized district-level processing mechanism applies uniformly to all States and Union Territories across India without any regional exclusions.
3. The provision for granting citizenship under Section 6B is applicable to specified persecuted religious minorities from Afghanistan, Bangladesh, and Pakistan who entered India on or before December 31, 2014.

Which of the statements given above are correct?

- A: 1 and 2 only
 B: 1 and 3 only
 C: 2 and 3 only
 D: 1, 2, and 3

ANSWER

1	C
2	C
3	C
4	D
5	C
6	C
7	A
8	B
9	C
10	D

11	C
12	A
13	B
14	D
15	B
16	B
17	C
18	A
19	A
20	A

21	B
22	A
23	C
24	B
25	B
26	A
27	A
28	C
29	A
30	D

31	A
32	C
33	B
34	C
35	C
36	C
37	A
38	A
39	A
40	C

41	B
42	B
43	B
44	C
45	A
46	B
47	B
48	B
49	B
50	B

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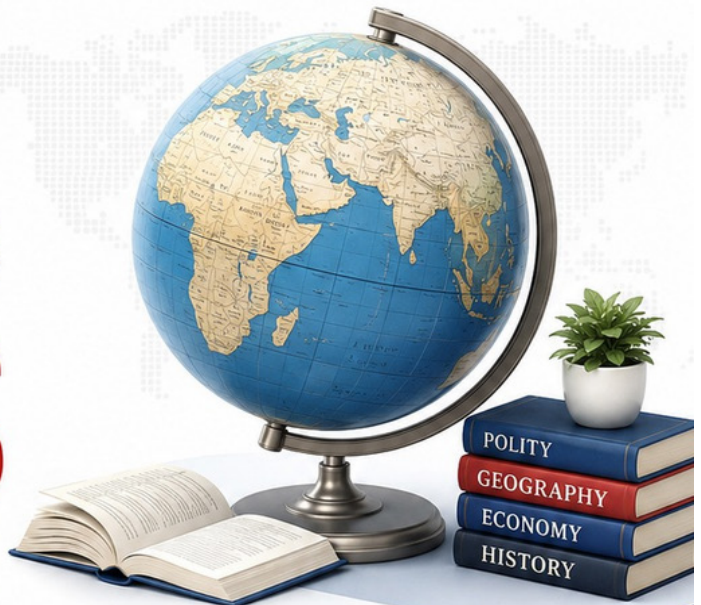


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